

JVC

SERVICE MANUAL

LCD FLAT TELEVISION

LT-23E31 BUG/BJG

LT-23E31 SUG/SJG

LT-23E75 BJG

LT-23E75 SJG



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SPECIFICATION

Items		Contents		
		LT-23E31 BUG LT-23E31 SUG	LT-23E31 BJG LT-23E31 SJG	LT-23E75 BJG LT-23E75 SJG
Dimentions (W x H x D)		61.9cm x 43.6cm x 8.6cm (TV only) 61.9cm x 49.8cm x 22.7cm		
Mass		7.8kg (TV only) 9.8kg		
TV RF System		B, G, I, D, K, L		
Colour System	TV Mode Video Mode	PAL / SECAM PAL / SECAM / NTSC3.58 / NTSC4.43		
Stereo System		A2(B/G, D/K), NICAM (B/G, I, D/K, L)		
Teletext System		FLOP(Fastext), TOP, WST(World Standard System)		
Receiving Frequency	ITALY IR French cable TV	E2 ~ E12, E21 ~ E69 S1 ~ S41, X, Y, Z, Z+1, Z+2 A-H, H+1, H+2 F2 ~ F10, F21 ~ F69 R1 ~ R12, R21 ~ R69 A ~ J 116MHz ~ 172MHz 220MHz ~ 469MHz	E21 ~ E69 A ~ J	
Aerial Input Terminal		75Ω unbalanced		
Power Input		TV : 24V DC, AC adapter : AC100V ~ AC240V, 50Hz/60Hz		
Power Consumption		120W, Standby : 6W		
Display area		Visible size: 58.5cm (Diagonal) / 50.2cm x 30.1cm		
Display pixels		1280 x 768 (W-XGA)		
Speakers		5.4cm, Round type x 2		
Audio Output		5W + 5W		
Video / Audio Inputs (1/2/3)	EXT-1 terminal	Euroconnector (21pin SCART) Composite video, RGB, Audio L, R		
	EXT-2 terminal	Euroconnector (21pin SCART) Composite video, S-VIDEO, RGB, Audio L, R		
	EXT-3 terminal	RCA connectors x3, S-VIDEO connector x1 Composite video, S-VIDEO, Audio L, R		
Video / Audio Outputs	EXT-1 terminal	Euroconnector (21pin SCART) Composite video, Audio L, R (TV broadcast outputs)		
	Audio	RCA connectors x3 Audio L, R, Subwoofer		
PC Input		Analog RGB : D-SUB(15pin) x1, PC AUDIO IN x1		
Headphone		3.5mm stereo mini jack x 1		
Remote Control Unit		DA-5000100084 (AA/R06/UM-3 battery x 2)	DA-5000100085 (AA/R06/UM-3 battery x 2)	DA-5000100084 (AA/R06/UM-3 battery x 2)
AC adapter		DA-5061370340		

NOTE: Design & specifications are subject to change without notice.

SECTION 1 PRECAUTION

1.1 SAFETY PRECAUTIONS

- (1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- (4) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (\nearrow) side GND, the ISOLATED (NEUTRAL) : (\perp) side GND and EARTH : (\oplus) side GND. Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.).
If above note will not be kept, a fuse or any parts will be broken.
- (5) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- (6) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- (7) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

- (8) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

(9) Isolation Check (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

a) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second. (. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.) This method of test requires a test equipment not generally found in the service trade.

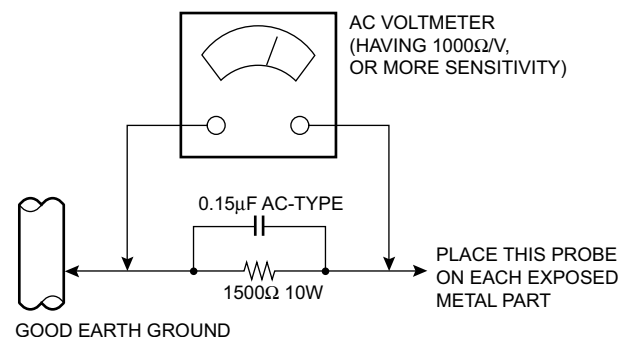
b) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



1.2 INSTALLATION

1.2.1 HEAT DISSIPATION

If the heat dissipation vent behind this unit is blocked, cooling efficiency may deteriorate and temperature inside the unit will rise. Therefore, please make sure pay attention not to block the heat dissipation vent as well as the ventilation outlet behind the unit and ensure that there is room for ventilation around it.

1.2.2 INSTALLATION REQUIREMENTS

Ensure that the minimal distance is maintained, as specified below, between the unit with and the surrounding walls.

Install the unit on stable flooring or stands.

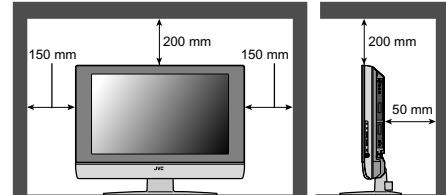
Take precautionary measures to prevent the unit from tipping in order to protect against accidents and earthquakes.

Distance recommendations

Avoid improper installation and never position the unit where good ventilation is impossible.

When installing this TV, distance recommendations must be maintained between the set and the wall, as well as inside a tightly enclosed area or piece of furniture.

Keep to the minimum distance guidelines shown for safe operation.



1.3 PRECAUTIONS

- (1) Depending on the around temperature, the brightness leaning occurs. Be careful of the environment in the product installation place and so on sufficiently.
- (2) Don't hinder radiation from the back, the heaven and the side. Please refer to the next page that explains about the condition of the installation.
The inside becomes hot if hindering radiation and there is fear, which the inner circuit damages.
- (3) Install in the place with good ventilation. Use in the condition that around temperature is in the 0~35°C range.
- (4) Avoid preservation and use at the high temperature or high humidity place. If you behave like this, leaning sometimes happens in the screen when the set actives.
- (5) Depending on the condition and the environment of display, the slight fleck of the light and leaning of the screen and so on is sometimes conspicuous. This is the characteristic which is peculiar to liquid crystal display. It is not set trouble.
- (6) This monitor has cool cathode pipe as the backlight. The time change and the use time sometimes change brightness and condition of display.

1.4 THE ATTENTION IN TRANSPORTATION

When transporting a set, if the load handling is bad (throwing, falling and so on) however it is using a solid box, pressure inside liquid crystal display.

In the case there is fear to break the liquid crystal display while transporting. To prevent from the accident or trouble while transporting, pay attention to choice of the transportation company sufficiently and also arrange for it in the delivery after the attention of the load handling is explained to the transportation company.

This set is used glass for composing liquid crystal display. When carrying, pay attention not to add over vibration and impact sufficiently.

Ensure that it is placed upright and not horizontally during transportation and storage as the LCD panel is very vulnerable to lateral impacts and may break. During transportation, ensure that the unit is loaded along the traveling direction of the vehicle, and avoid stacking them on one another. For storage, ensure that they are stacked in 2 layers or less even when placed upright.

SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

2.1 DESCRIPTION ABOUT LIQUID CRYSTAL PANEL

2.2.1 STRUCTURE OF LIQUID CRYSTAL PANEL

The Liquid Crystal Panel of this model is TFT Panel. The Print circuit board that consist of TFT array and the print circuit board adopted stripe shaped image element alignment are used. These two boards are mixed. The Liquid crystal is enclosed between two boards.

2.1.2 LONG RANGE AFTERIMAGE OF LIQUID CRYSTAL

The small amount of ion material has mixed a liquid crystal panel with the liquid crystal material in the manufacturing process. If ion material is piled up partially among the poles when the voltage is impressed among the poles, the brightness difference occurs and becomes a long-range afterimage. If same picture is reflected for long time, such a long-range afterimage occurs. If the long-range afterimage occurs, we recommend that you reflect the single color image or moving picture and so on to restore.

2.1.3 THE DISPLAY REPLYING SPEED OF LIQUID CRYSTAL

Because the speed to display of Liquid crystal panel is slower than the speed of the CRT monitor, some of the moving picture cannot overtake to the speed to display and the image looks flowing is sometimes displayed. This is not trouble, but efficiency of Liquid Crystal.

2.1.4 THE EYESIGHT CORNER OF LIQUID CRYSTAL

The liquid crystal panel has the wide eyesight corner for which it is difficult to reverse brightness. The tint changes depending on the direction to see a screen. This is not trouble, but efficiency of Liquid Crystal.

2.1.5 THE PICTURE ELEMENT FAULT OF LIQUID CRYSTAL

The liquid crystal panel is composed of precise technique but all devices don't always work right.

2.2 ATTENTION ITEMS WHEN REPLACING PARTS

2.2.1 ATTENTION TO EXCHANGE THE LIQUID CRYSTAL PANEL

- (1) The stillness electricity sometimes makes damage a liquid crystal panel. In liquid crystal panel exchange, do a measure of the stillness electricity such as the earth band.
- (2) A liquid crystal panel and back-light are made from glass. If you gain an impact to these materials, there is fear to damage. So in case of treatment, be careful sufficiently.
- (3) Fix with the screw after confirming that there is not a float to chassis base when exchanging liquid crystal panel. After that reflect all the black signals and confirm that brightness leaning doesn't occur near the screw fixation part. When brightness leaning occurs, slacken a screw in the neighborhood until the brightness leaning is running-out.
- (4) Fix the torque that installs a screw below 0.294Nm.
If you install at any more torque, the liquid crystal panel is transformed and sometimes damages.
- (5) If you pull out or insert each connector when power is ON, it causes the trouble.
So pull out or insert each connector in the condition to have pulled out a power supply plug.

2.2.2 ATTENTION WHEN EXCHANGING THE FUSE

When exchanging the fuse, please use specified parts. After fuse exchange, confirm that insulater is set to the shield and insulate surely.

SECTION 3 DISASSEMBLY

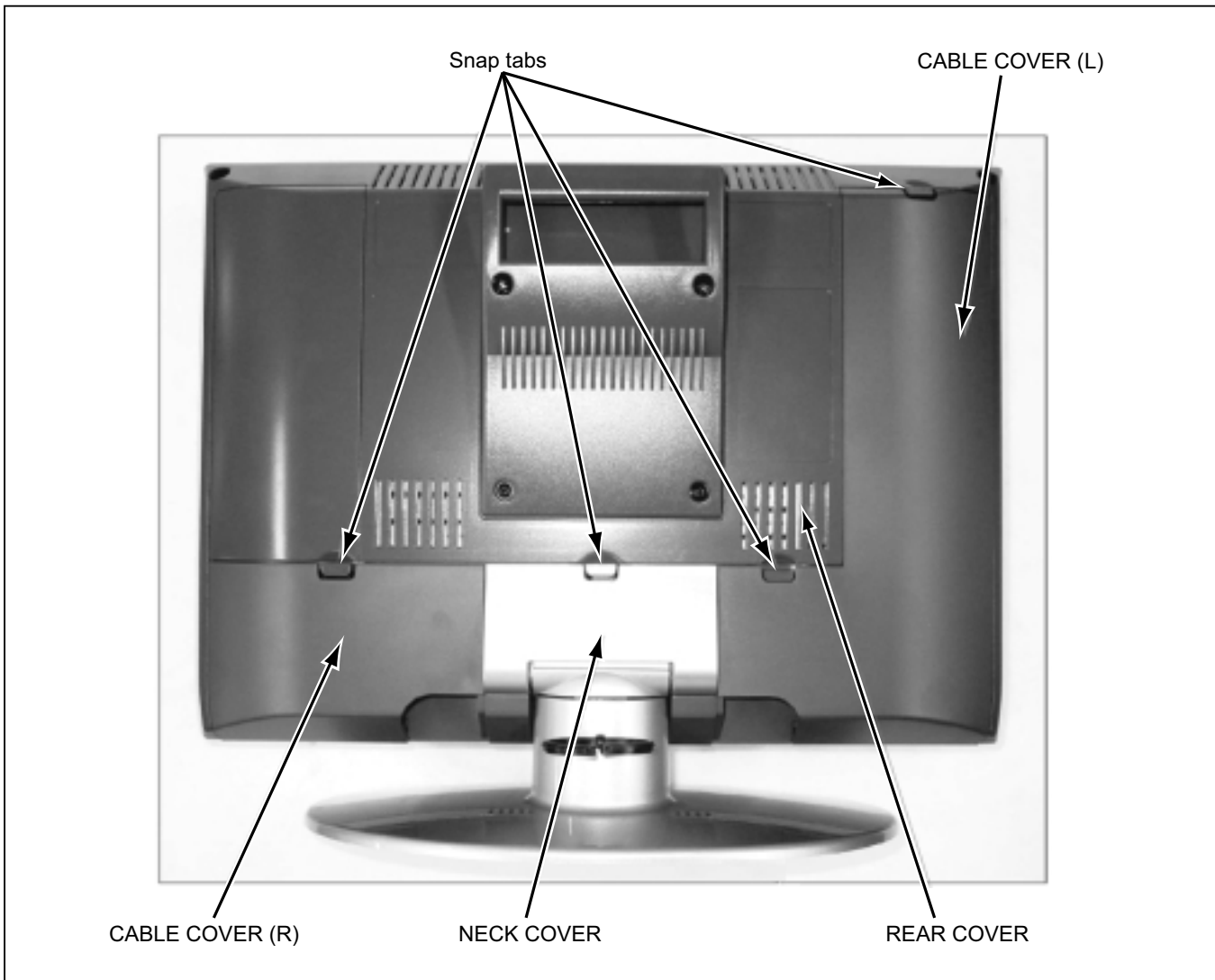
3.1 DISASSEMBLY PROCEDURE

CAUTION:

- Disconnect the set and attached devices from the electrical outlet
- To avoid ESD (Electro-Static Discharge), ground yourself by using a wrist grounding strap or by periodically touching unpainted metal on the set.

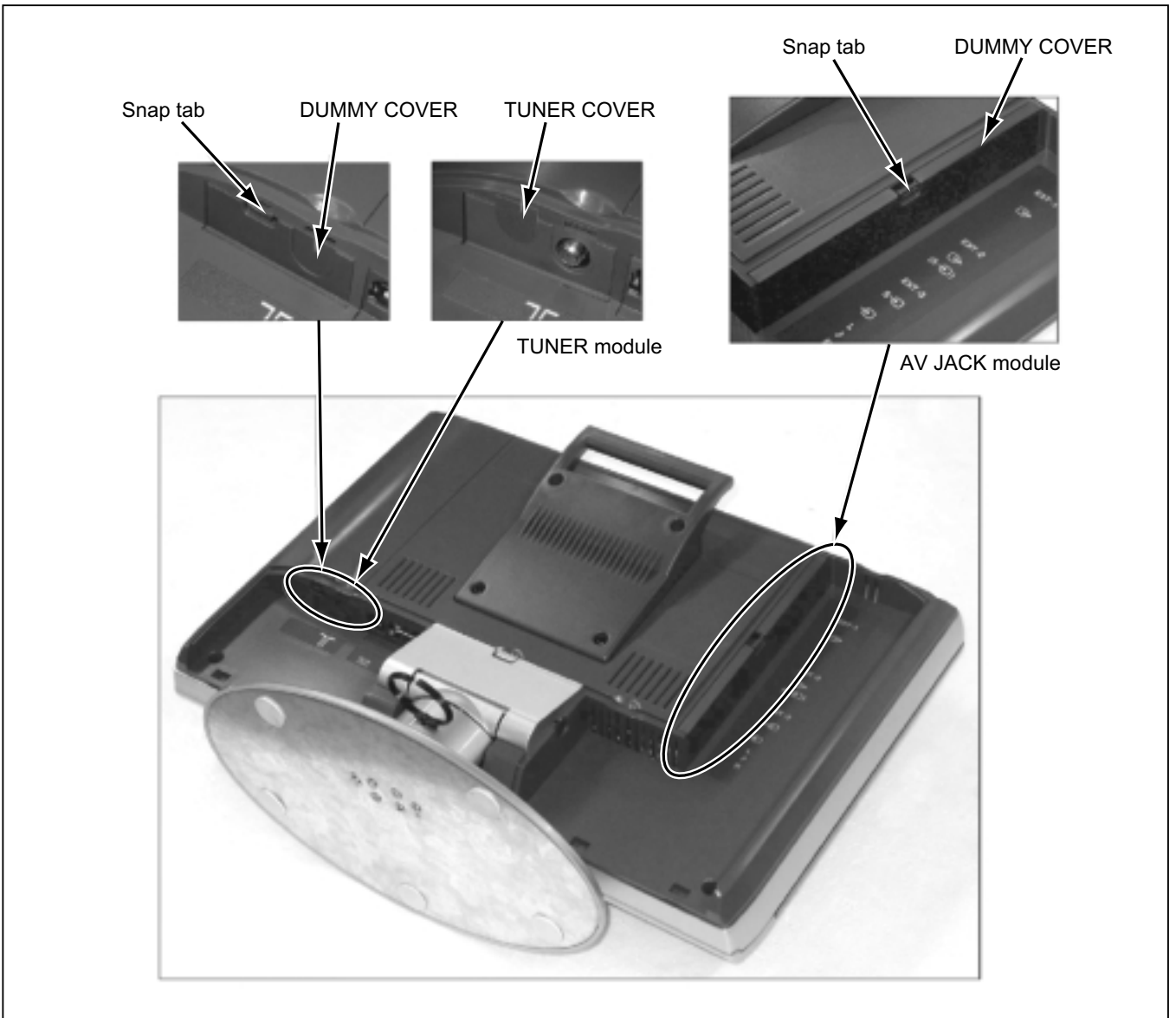
3.1.1 REMOVING THE CABLE COVER AND NECK COVER

- (1) Remove the CABLE COVER (L) by pulling the snap tabs.
- (2) Make similar ways to remove the CABLE COVER (R) and NECK COVER.



3.1.2 REMOVING THE DUMMY COVERS (If necessary)

(1) Remove the DUMMY COVERS of TUNER module and AV JACK module by pulling the snap tabs

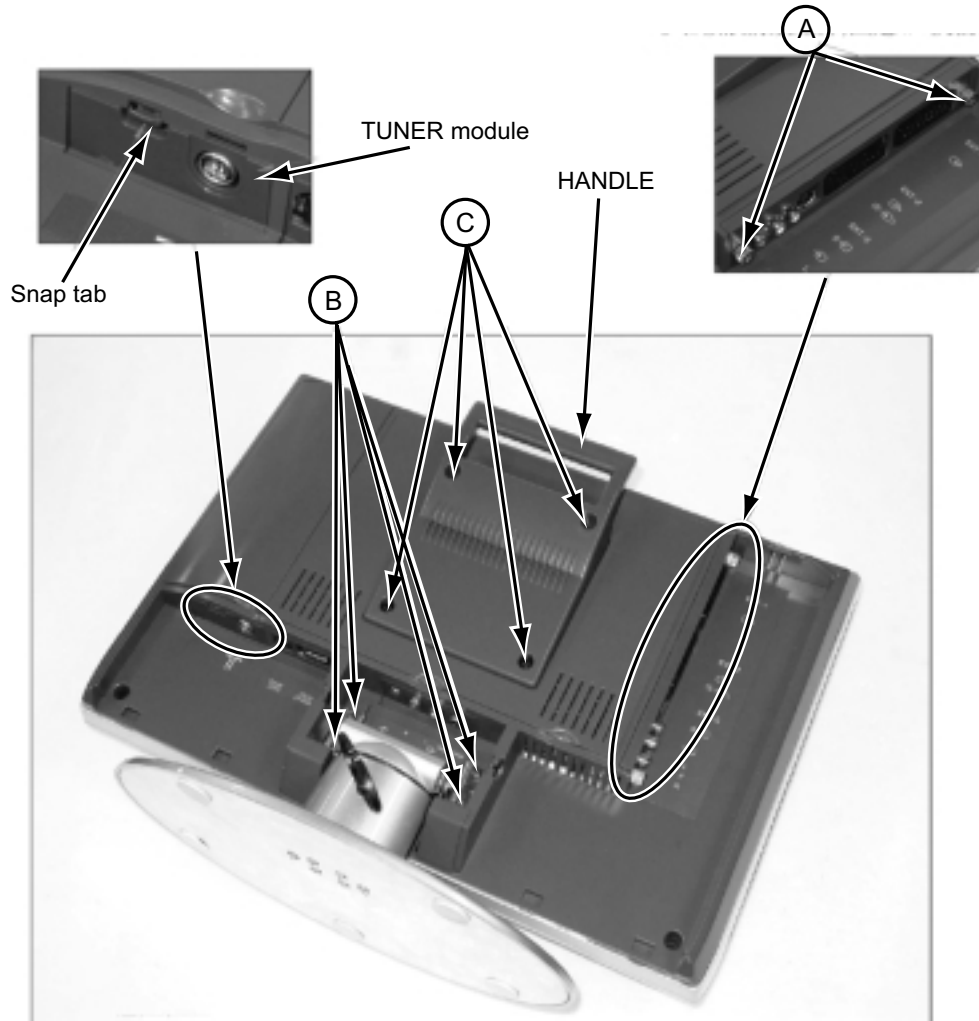


3.1.3 PREPARING TO REMOVE THE MODULE UNITS

- (1) Remove the TUNER module cover by pulling snap tab.
- (2) Loosen 2 screws [A] of AV JACK module.

3.1.4 REMOVING THE BASE AND THE HANDLE

- (1) Remove 4 screws [B] and remove the BASE by pulling BASE.
- (2) Remove 4 screws [C] and remove the HANDLE.



3.1.5 REMOVING THE MODULE UNITS

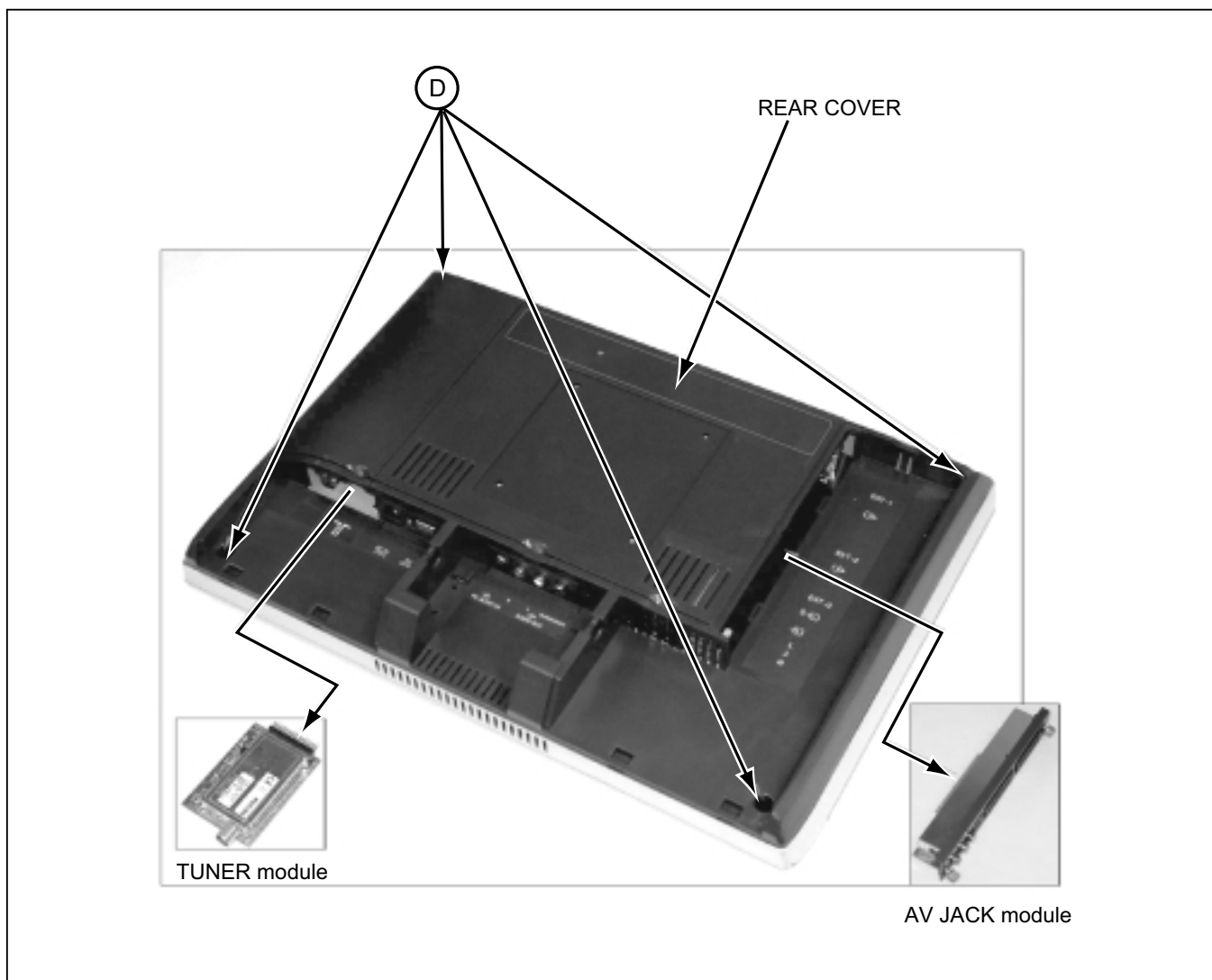
- (1) Remove the TUNER module by pulling carefully.
- (2) Remove the AV JACK module by pulling carefully.

3.1.6 REMOVING THE REAR COVER

- (1) Remove 4 screws [D] and remove the REAR COVER.

NOTE:

For the REAR COVER is attached tightly, it is easy to open from the corner of the REAR COVER.

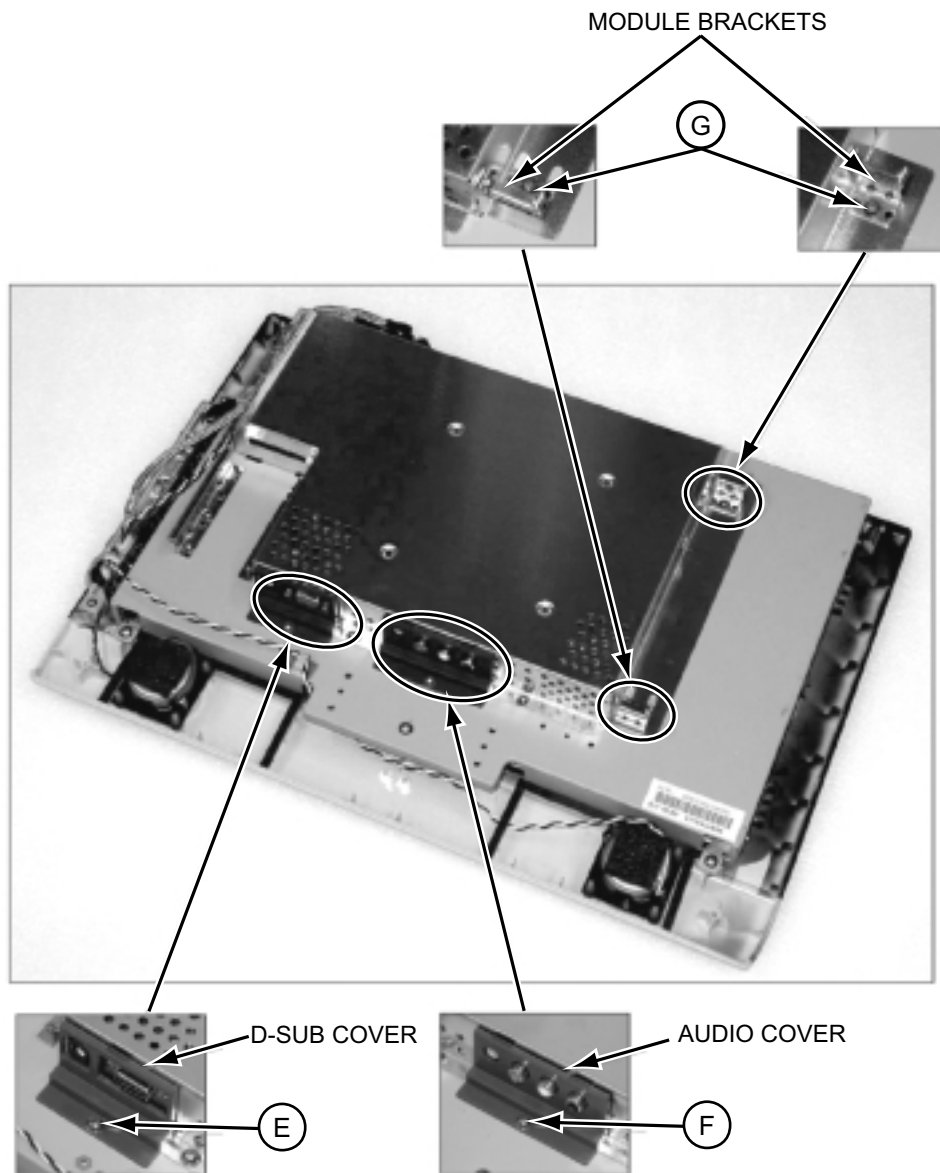


3.1.7 REMOVING THE D-SUB COVER AND THE AUDIO COVER

- (1) Remove a screw [E] and remove the D-SUB COVER.
- (2) Remove a screw [F] and remove the AUDIO COVER.

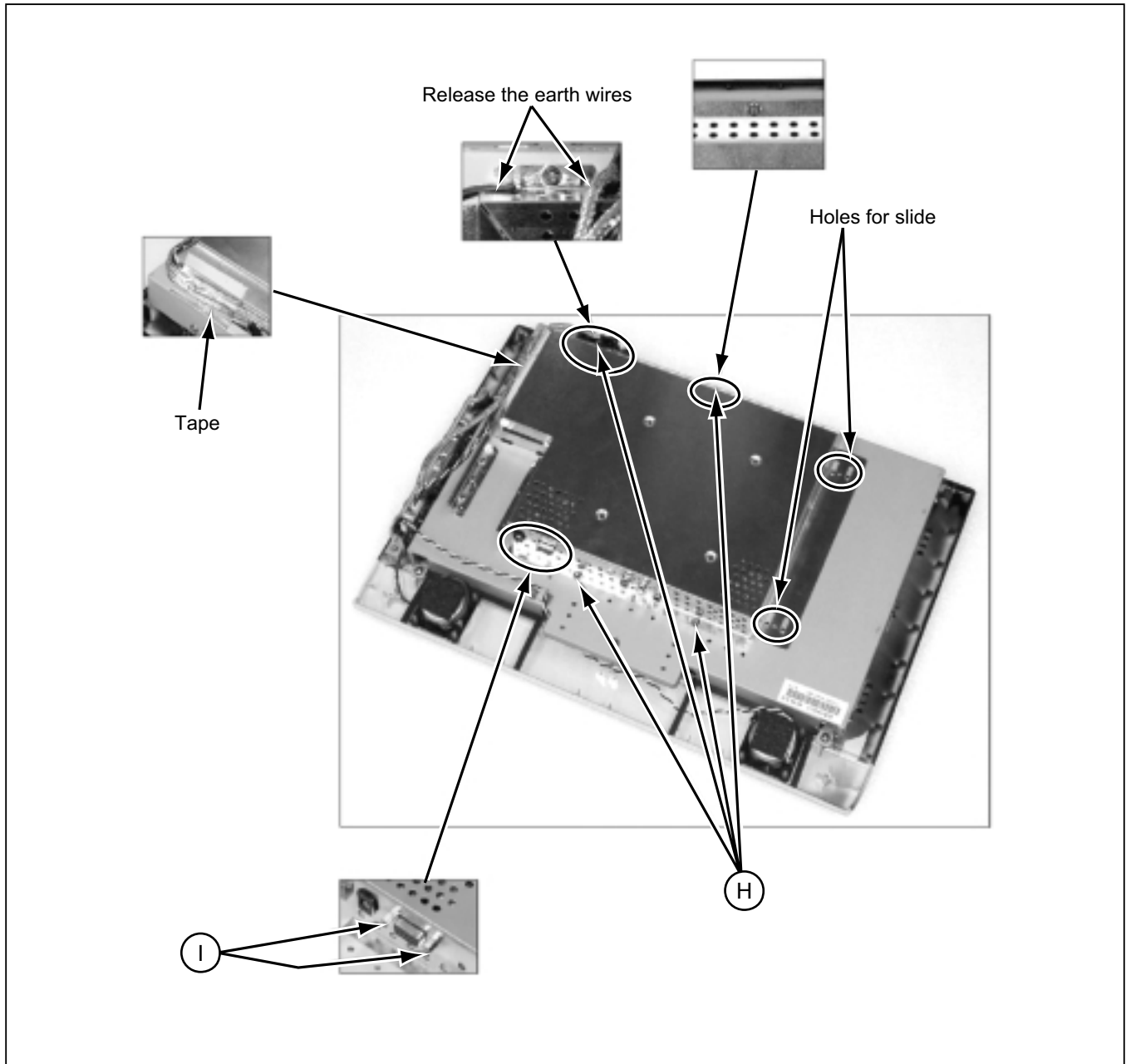
3.1.8 REMOVING THE MODULE BRACKETS

- (1) Remove the 2 screws [G] and remove the MODULE BRACKETS.



3.1.9 REMOVING THE MAIN BOARD SHIELD

- (1) Remove 4 screws [H] and remove the 2 nuts [I].
- (2) Remove the tape fixing wires.
- (3) Remove the MAIN BOARD SHIELD by sliding to downside and lifting.



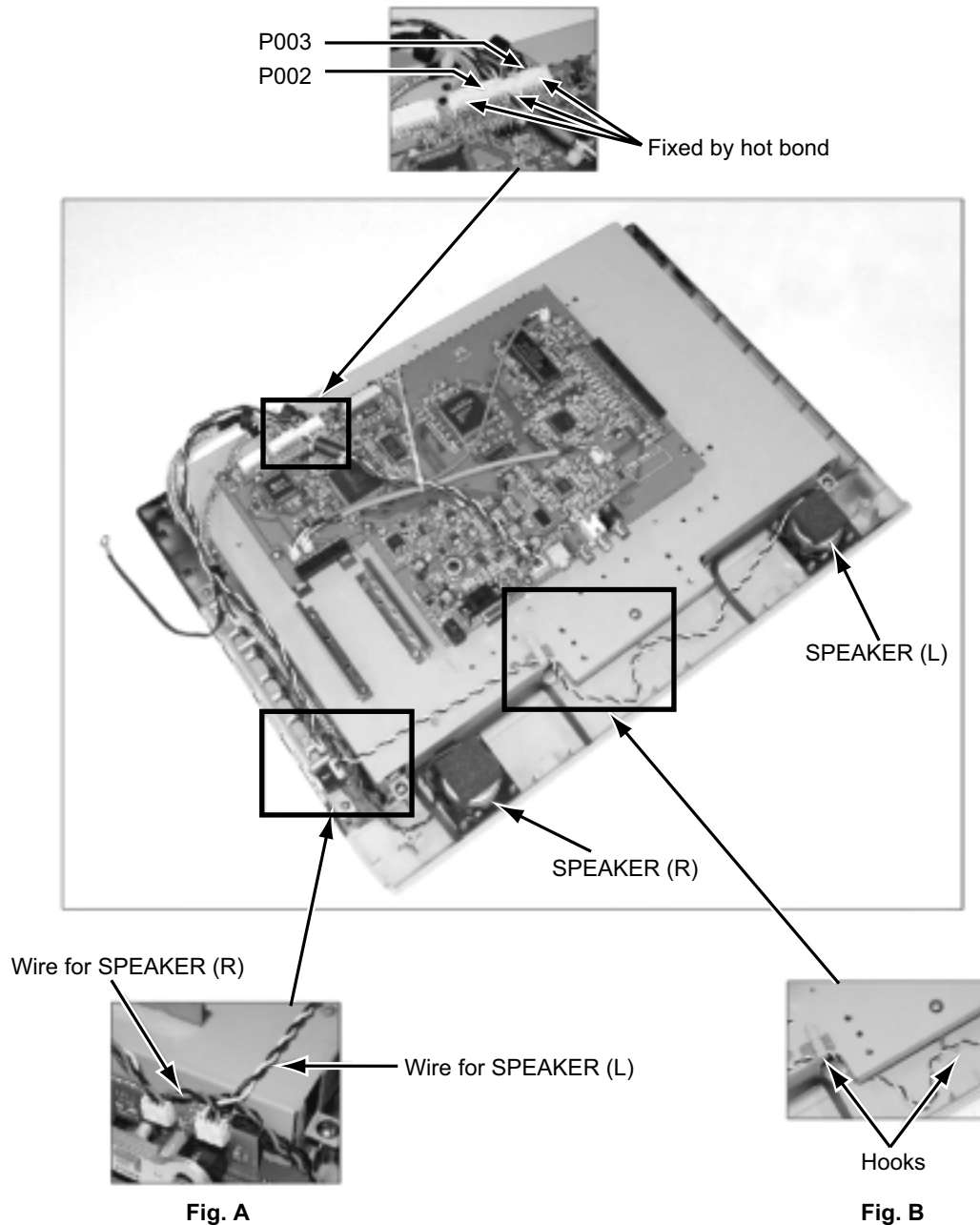
3.1.10 DISCONNECTING THE WIRING CONNECTORS

(1) Disconnect the wiring connectors from P002 and P003 on MAIN PWB.

NOTES:

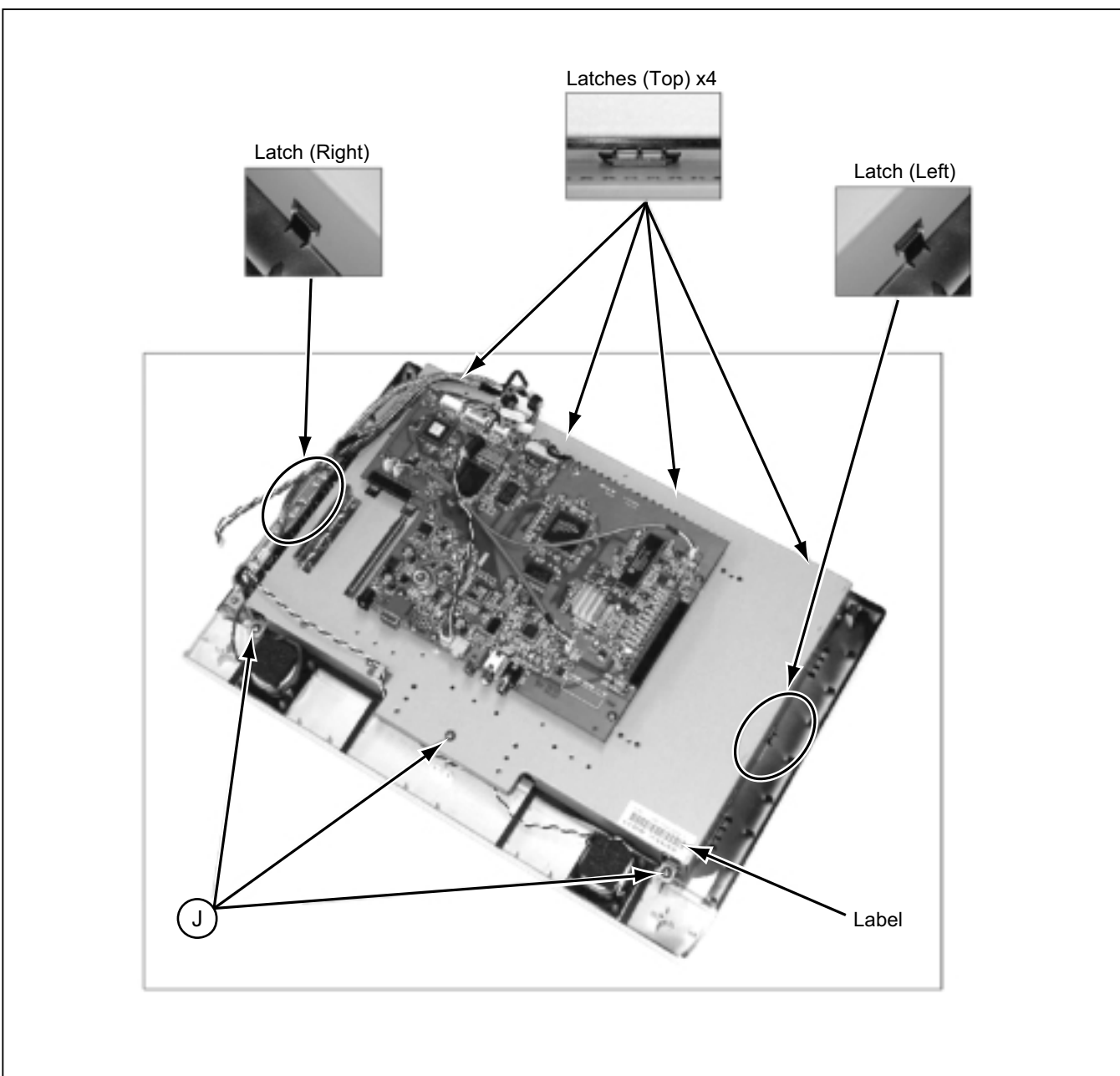
Confirm the wiring layout of harnesses.

- The AUDIO wires are fixed by hot bond between P002 and P003, after connected.
- The RIGHT SPEAKER wires are turn around into the gap as shown Fig.A.
- The LEFT SPEAKER wires must be put away from the top of the RIGHT SPEAKER and hooked as shown Fig. B.



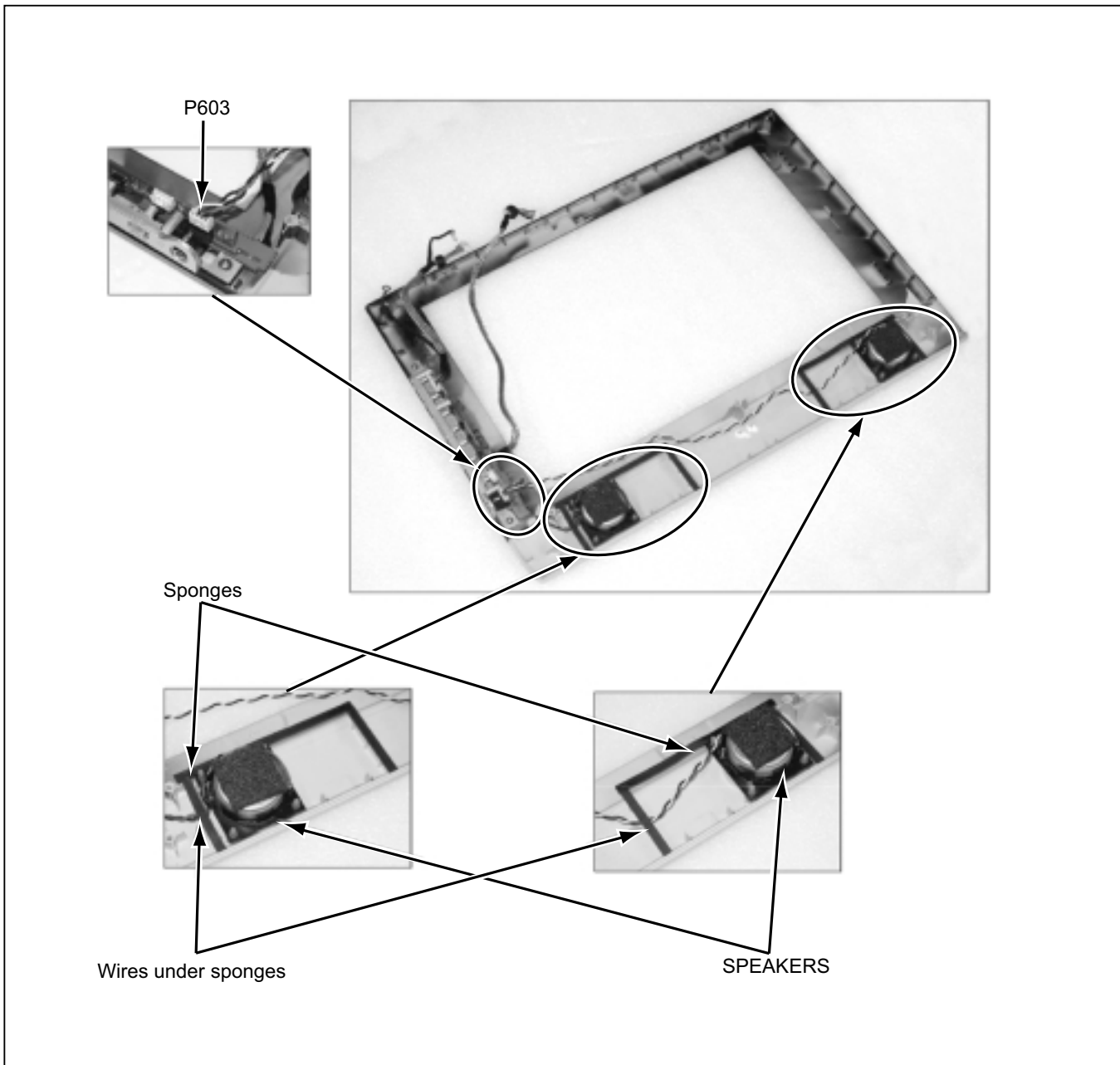
3.1.11 REMOVING THE LCD MODULE ASS'Y

- (1) Remove 3 screws [J].
- (2) Remove the LCD MODULE ASS'Y by release from the 6 latches.



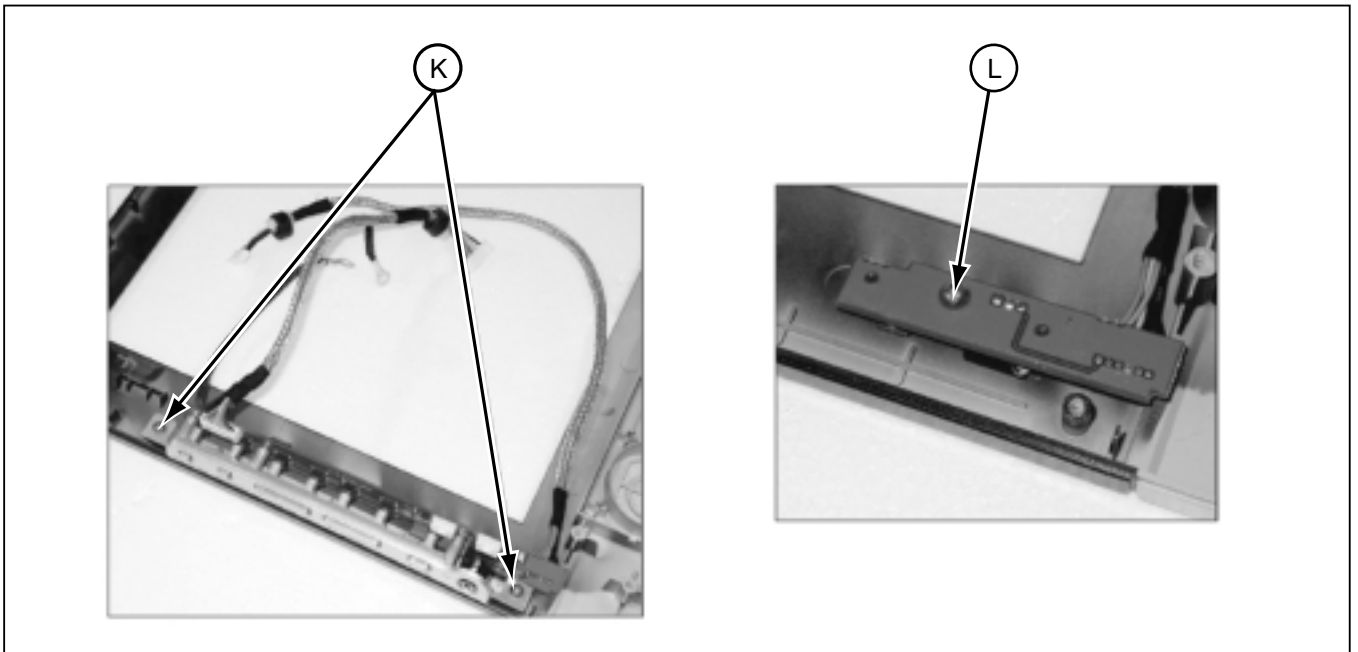
3.1.12 REMOVING THE SPEAKERS

- (1) Disconnect the wires from the P603 on FRONT CONTROL PWB.
- (2) Strip off the sponges and lift the SPEAKERS.

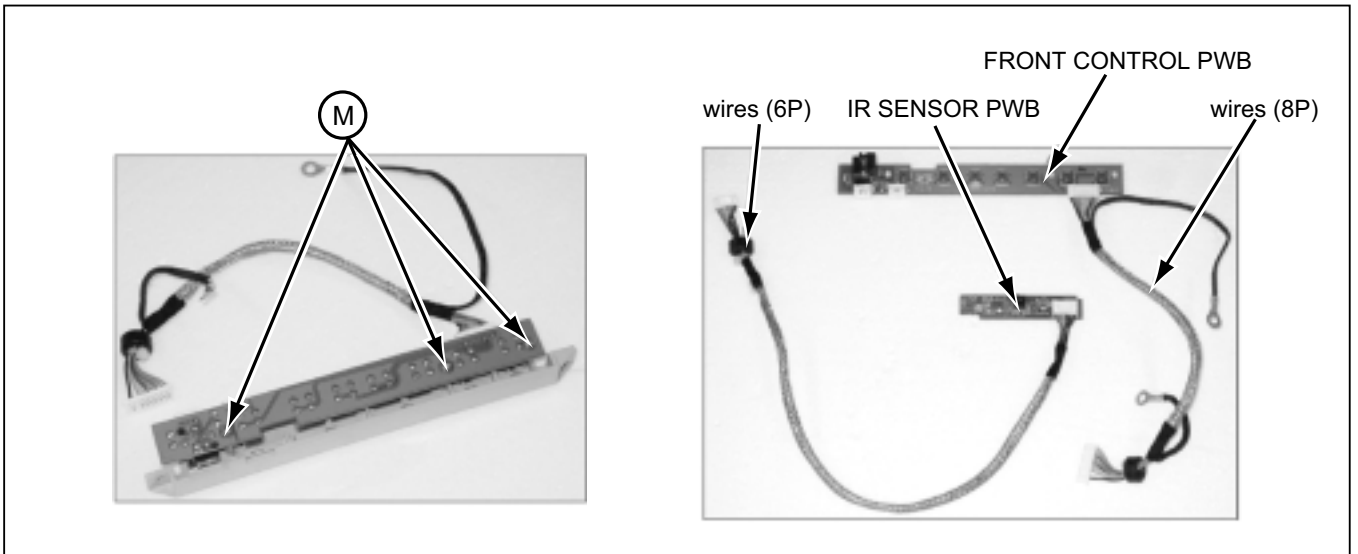


3.1.13 REMOVING THE FRONT CONTROL PWB AND IR SENSOR PWB

- (1) Remove 2 screws [K] and remove the FRONT CONTROL PWB.
- (2) Remove a screw [L] and remove the IR SENSOR PWB.

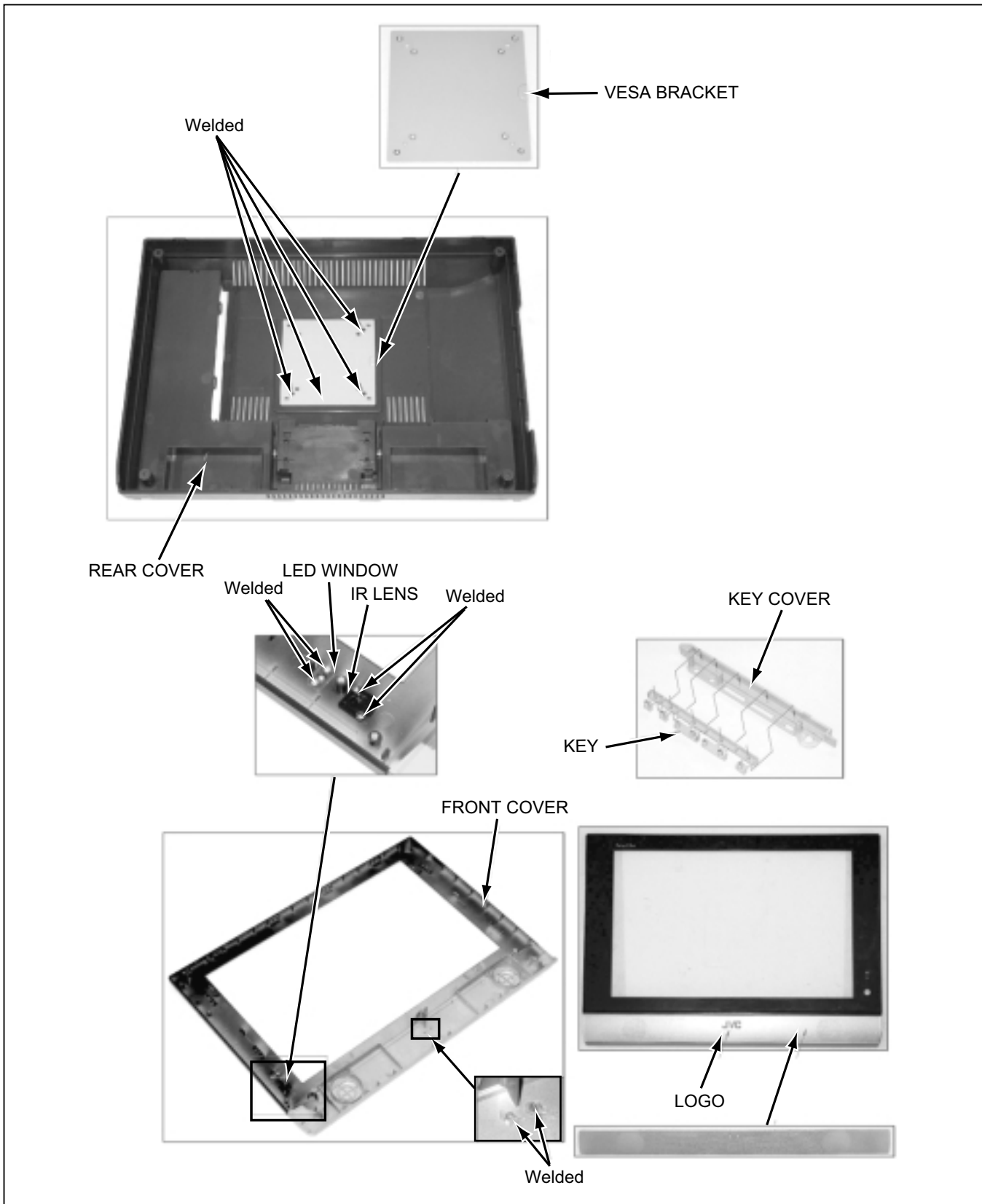


- (3) Remove 3 screws [M] and remove the KEY assembly.



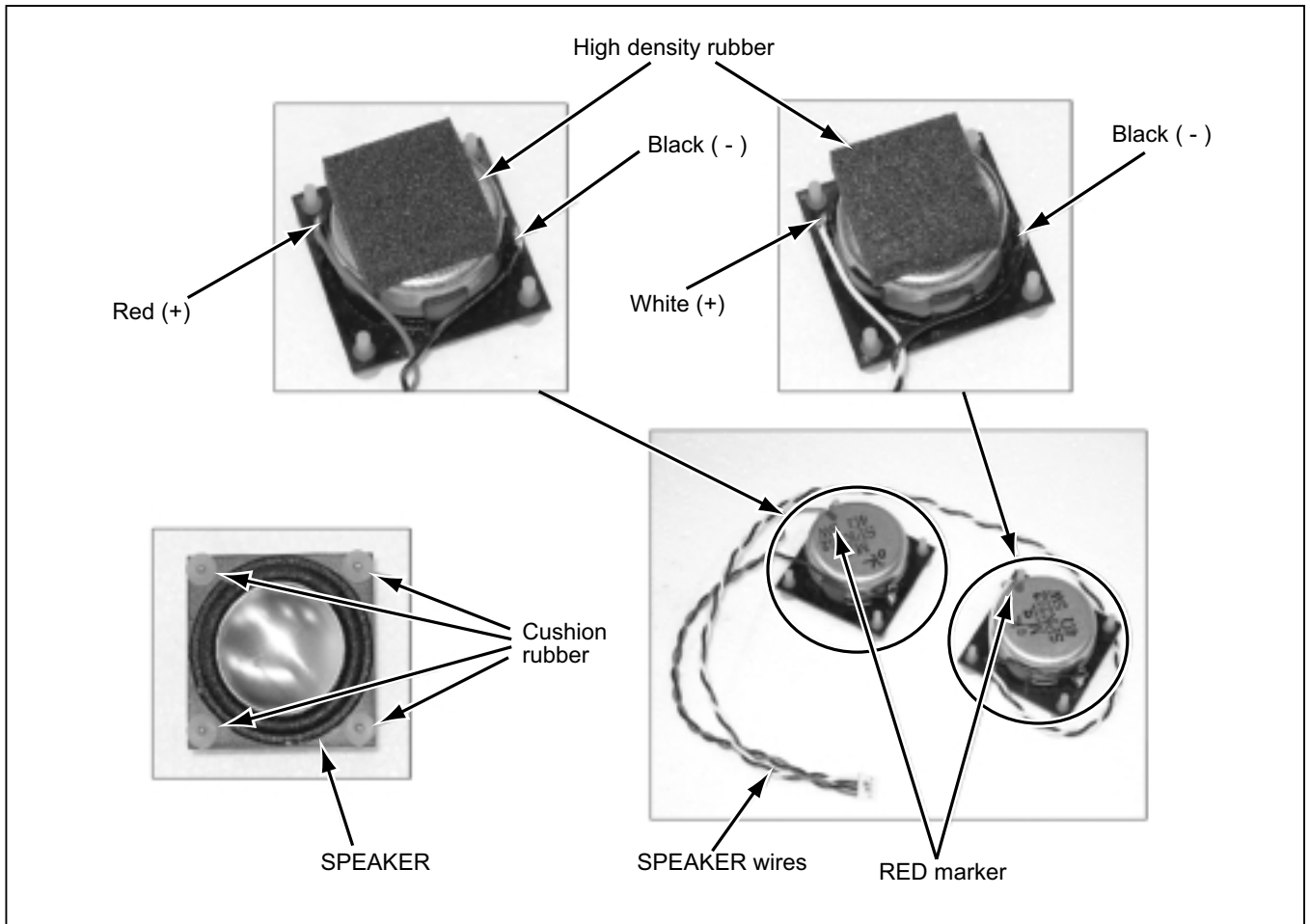
3.1.14 SUPPLEMENTAL 1

- The below assemblies are welded process.
- If removing these components, it is necessary to replace them.



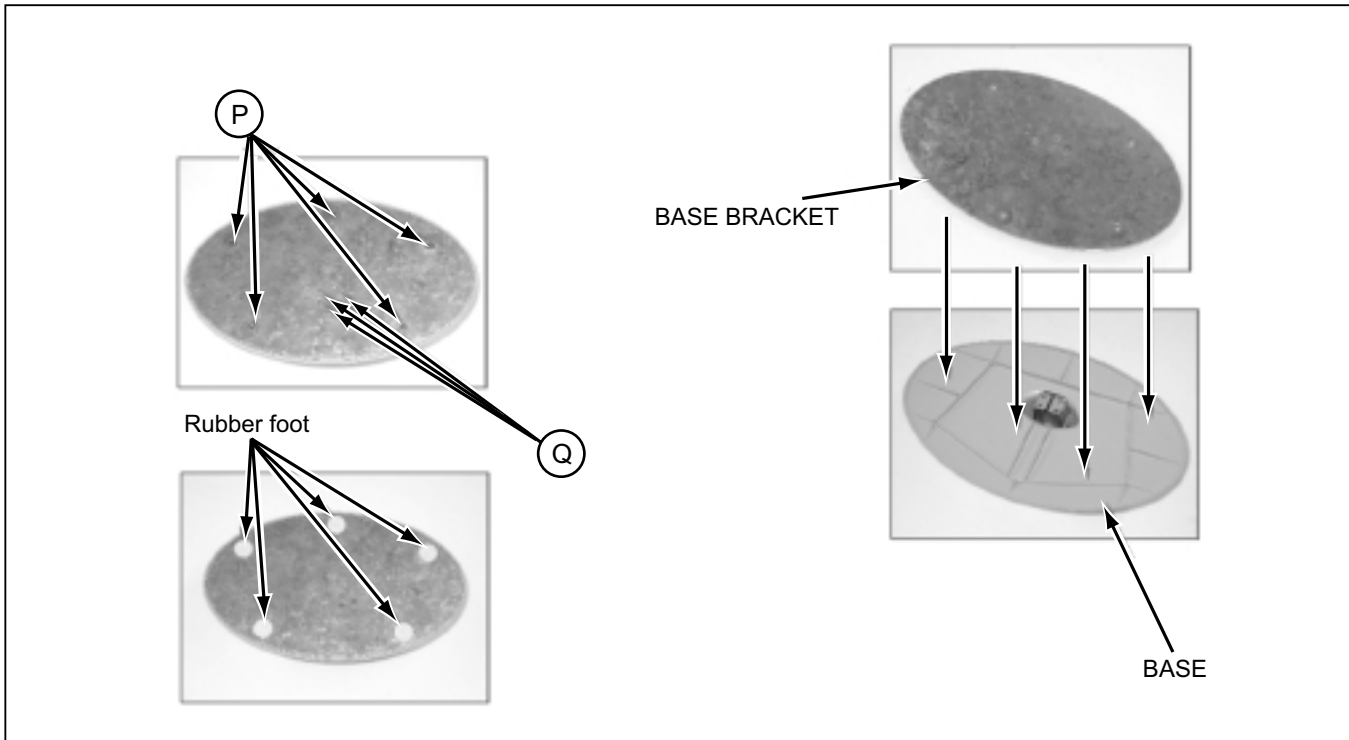
3.1.15 SUPPLEMENTAL 2

- SPEAKER assembly.
- Confirm to connect the positive wire to the terminal with RED marker.

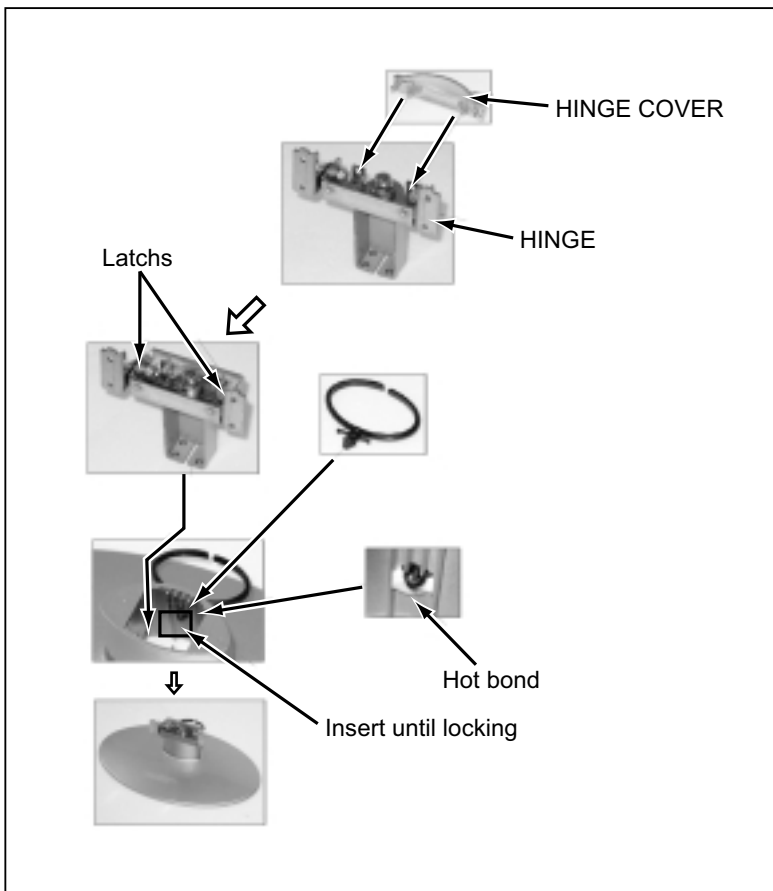


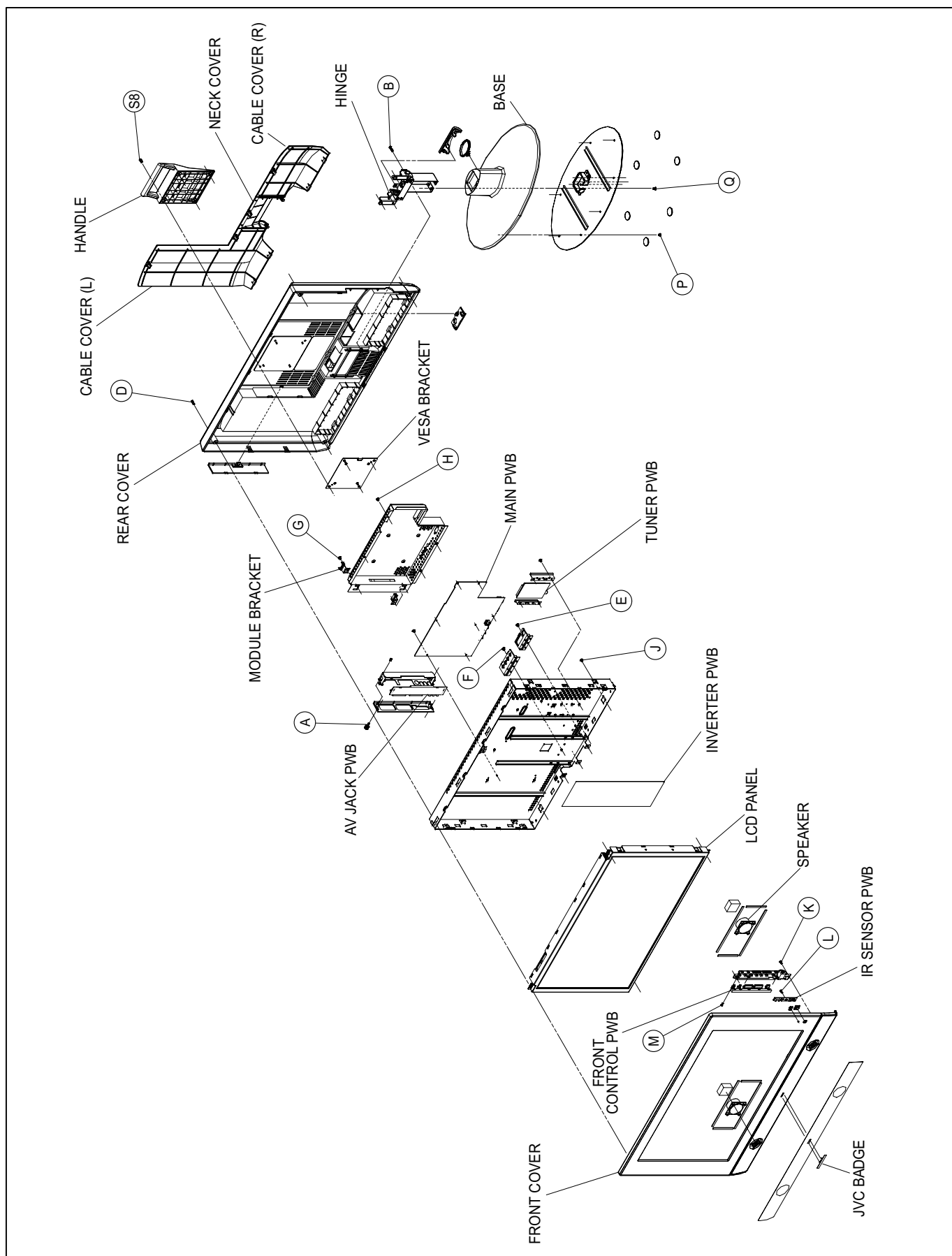
3.1.16 SUPPLEMENTAL 3

- BASE assembly.



- HINGE assembly.

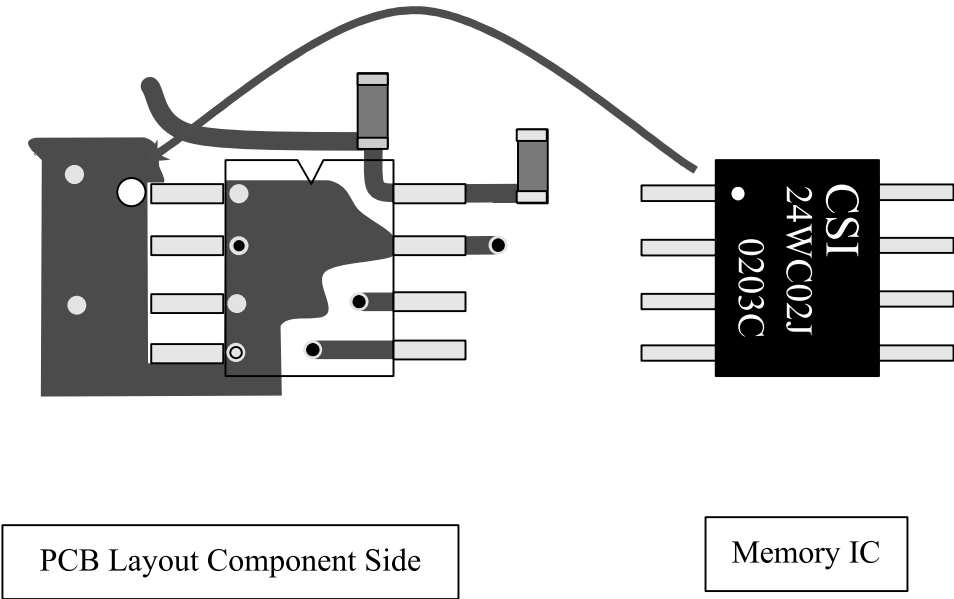




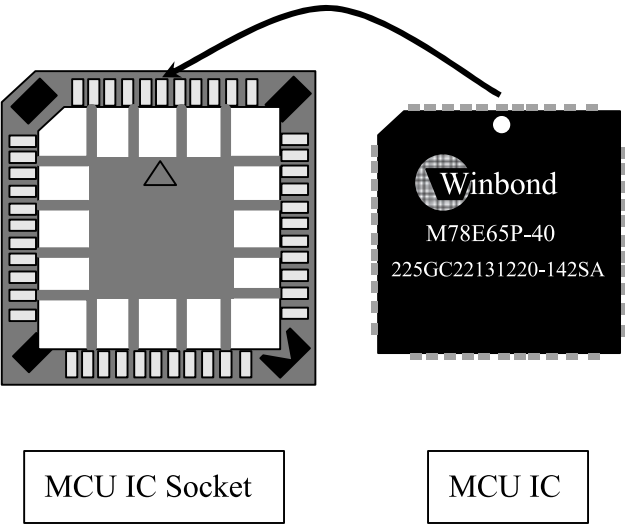
3.2 REPLACEMENT OF MEMORY IC

3.2.1 PROCEDURE FOR REPLACING OF MEMORY IC

Memory IC Notice



MCU IC Notice



3.3 REPLACEMENT OF CHIP COMPONENT

3.3.1 CAUTIONS

- (1) Avoid heating for more than 3 seconds.
- (2) Do not rub the electrodes and the resist parts of the pattern.
- (3) When removing a chip part, melt the solder adequately.
- (4) Do not reuse a chip part after removing it.

3.3.2 SOLDERING IRON

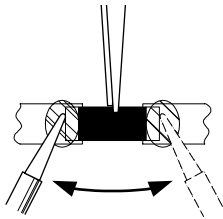
- (1) Use a high insulation soldering iron with a thin pointed end of it.
- (2) A 30w soldering iron is recommended for easily removing parts.

3.3.3 REPLACEMENT STEPS

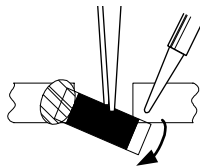
1. How to remove Chip parts

[Resistors, capacitors, etc.]

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

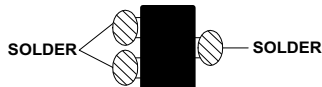


- (2) Shift with tweezers and remove the chip part.

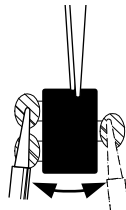


[Transistors, diodes, variable resistors, etc.]

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.



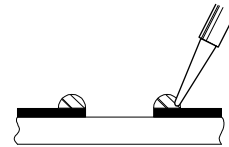
Note :

After removing the part, remove remaining solder from the pattern.

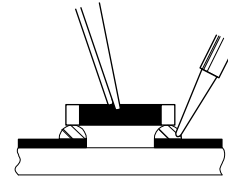
2. How to install Chip parts

[Resistors, capacitors, etc.]

- (1) Apply solder to the pattern as indicated in the figure.

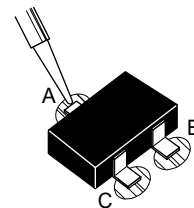


- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

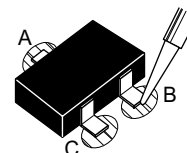


[Transistors, diodes, variable resistors, etc.]

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.
- (3) First solder lead A as indicated in the figure.



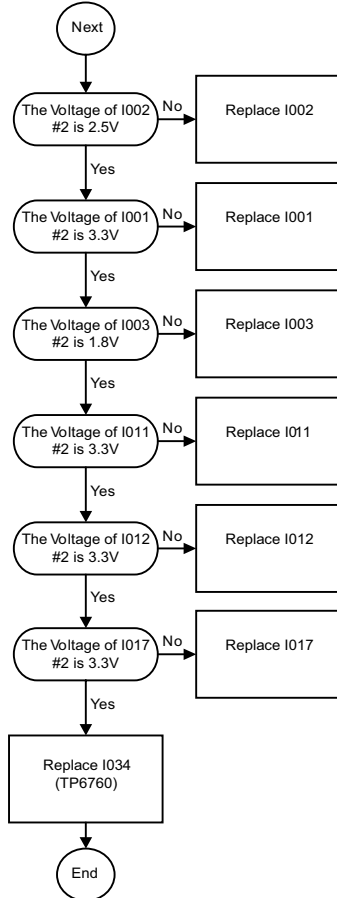
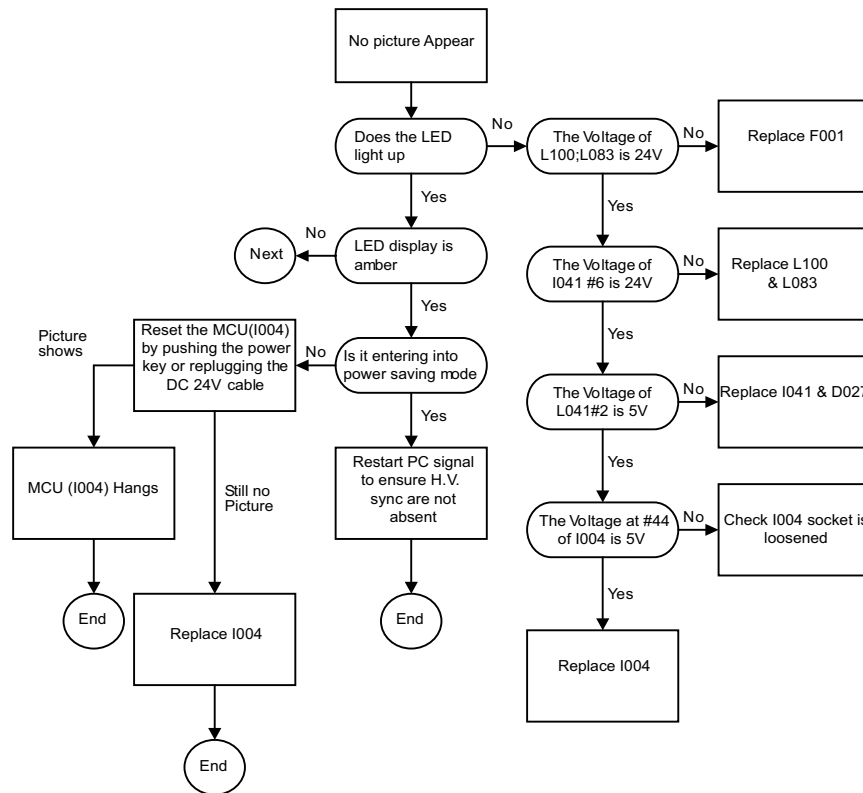
- (4) Then solder leads B and C.



SECTION 4 ADJUSTMENT

This service manual does not describe ADJUSTMENT.

SECTION 5 TROUBLESHOOTING





Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY VIDEO DISPLAY CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan



PARTS LIST

CAUTION

- The parts identified by the symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines Δ in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
CR	Carbon Resistor	C CAP.	Ceramic Capacitor
FR	Fusible Resistor	E CAP.	Electrolytic Capacitor
PR	Plate Resistor	M CAP.	Mylar Capacitor
VR	Variable Resistor	CH CAP.	Chip Capacitor
HV R	High Voltage Resistor	HV CAP.	High Voltage Capacitor
MFR	Metal Film Resistor	MF CAP.	Metalized Film Capacitor
MGR	Metal Glazed Resistor	MM CAP.	Metalized Mylar Capacitor
MPR	Metal Plate Resistor	MP CAP.	Metalized Polystyrol Capacitor
OMR	Metal Oxide Film Resistor	PP CAP.	Polypropylene Capacitor
CMFR	Coating Metal Film Resistor	PS CAP.	Polystyrol Capacitor
UNFR	Non-Flammable Resistor	TF CAP.	Thin Film Capacitor
CH V R	Chip Variable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH MG R	Chip Metal Glazed Resistor	TAN. CAP.	Tantalum Capacitor
COMP. R	Composition Resistor	CH C CAP.	Chip Ceramic Capacitor
LPTCR	Linear Positive Temperature Coefficient Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
		CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+30% -10%	+50% -10%	+80% -20%	+100% -0%

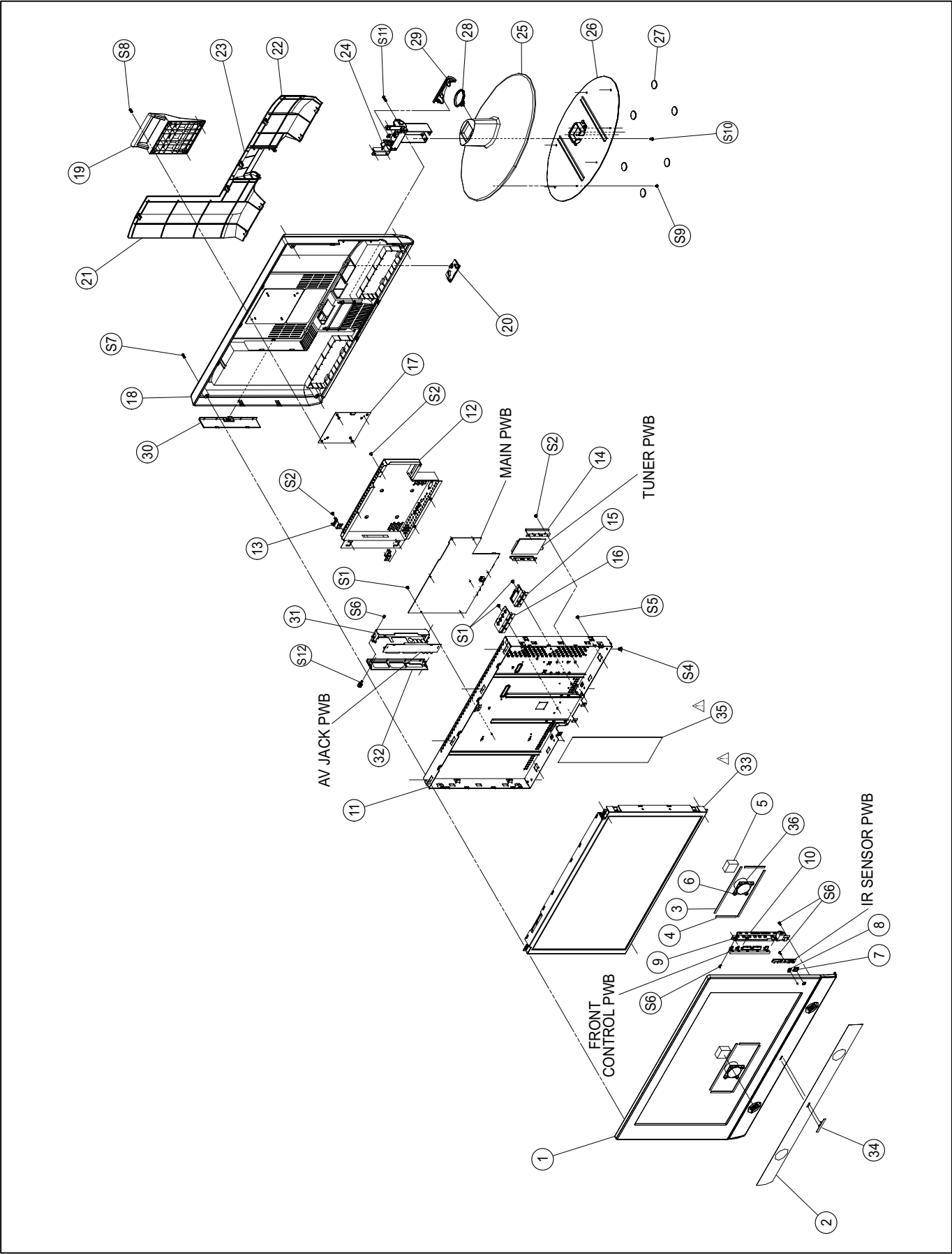
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EXPLODED VIEW PARTS LIST

△	Ref. No.	Part No.	Part Name	Description
	1	DA-5642297200	FRONT COVER	BUG, BJG
	1	DA-5642297201	FRONT COVER	SUG, SJG
	2	DA-5642564600	SPEAKER MESH	
	3	DA-5642026407	SP SPONGE	x4
	4	DA-5642026408	SP SPONGE	x4
	5	DA-5642025603	HIGH DENSITY SPONGE	x2
	6	DA-5042026500	SPEAKER RUBBER	x8
	7	DA-5640331900	IR LENS	BUG, BJG
	7	DA-5640331901	IR LENS	SUG, SJG
	8	DA-5640331800	LED WINDOW	
	9	DA-5642850600	KEY	
	10	DA-5642319500	KEY COVER	
	11	DA-5642729201	LCD BRACKET	
	12	DA-5646255500	MAIN PWB SHIELD	
	13	DA-5648742300	MODULE BRACKET	x2
	14	DA-5648742200	TUNER BRACKET	x2
	15	DA-5642318800	D-SUB COVER	
	16	DA-5642318900	AUDIO COVER	
	17	DA-5648731700	VESA BRACKET	
	18	DA-5642297300	BACK COVER	
	19	DA-5642901105	HANDLE	
	20	DA-5642318700	TUNER COVER	
	21	DA-5642319400	CABLE COVER (L)	
	22	DA-5642319300	CABLE COVER (R)	
	23	DA-5641415100	NECK COVER	
	24	DA-5640408500	HINGE	
	25	DA-5641415000	BASE	
	26	DA-5640408600	STAND BRACKET	
	27	DA-5642025401	RUBBER FOOT	x6
	28	DA-5642679300	CABLE HOLDER	
	29	DA-5641414900	HINGE COVER	
	30	DA-5642679700	MODULE COVER (DUMMY)	
	31	DA-5646255600	AV JACK SHIELD	
	32	DA-5642679700	AV JACK COVER	
△	33	DA-5051253665	LCD PANEL	
	34	LC41747-001C	JVC BADGE	
△	35	DA-5053910008	INVERTER PWB	
	36	DA-5055125200	SPEAKER	x2
	S1	DA-7000311032	SCREW (M3x06)	x9
	S2	DA-7136160252	SCREW (M3x04)	x12
	S3	DA-7190562204	SCREW (M2.5x04)	x2
	S4	DA-7190562306	SCREW (M3x06)	x4
	S5	DA-7134251482	SCREW (M4x10)	x6
	S6	DA-7134161182	SCREW (M3x08)	x6
	S7	DA-7134251682	SCREW (M4x12)	x4
	S8	DA-7134251452	SCREW (M4x10)	x4
	S9	DA-7034250655	SCREW (M4x06)	x7
	S10	DA-7190564408	SCREW (M4X08)	x4
	S11	DA-7190540084	SCREW (M4X16+SW)	x4
	S12	DA-5640228300	SCREW (LI14XD10)	x2

EXPLODED VIEW



PRINTED WIRING BOARD PARTS LIST

PWB ASSEMBLIES LIST

△	Symbol	Part No.	Part Name	Description
		---	MAIN PWB ASS'Y	DA-5097627802
		---	IR SENSOR PWB ASS'Y	DA-5097627802
		---	AV JACK PWB ASS'Y	DA-5098800736
		---	FRONT CONTROL PWB ASS'Y	DA-5098800737
		---	TUNER PWB ASS'Y	DA-5098800738
△		DA-5053910008	INVERTER PWB	

MAIN PWB ASSEMBLY

△	Symbol	Part No.	Part Name	Description
ICS				
	I001	DA-6640005156	VOLTAGE REG.	LT1084
	I002	DA-6640003867	VOLTAGE REG.	LT1117ST-2.5
	I003	DA-6640003863	VOLTAGE REG.	LT1117-ADJ
	I004	DA6647021815-23	MCU	SYNCMOS
	I004A	DA-5056304402	SOCKET 44P	
	I005	DA-6647051864	EEPROM	24LC32
	I006	DA-6644036001	VIDEO SWITCH	PI5V330
	I007	DA-6644036001	VIDEO SWITCH	PI5V330
	I008	DA-6644051155	AUDIO POWER AMP	TPA1517
	I009	DA-6647026360	EEPROM	24LC16
	I010	DA-6644036001	VIDEO SWITCH	PI5V330
	I011	DA-6640003858	VOLTAGE REG.	LT1117ST-33
	I012	DA-6640003858	VOLTAGE REG.	LT1117ST-33
	I013	DA-6649001853	A/D CONVERTER	AD9883-140
	I014	DA-6646021451	DIGITAL	74F14
	I015	DA6647051862-23	EEPROM	24C21
	I016	DA-6645006606	TELETEXT DECODER	SAA5264
	I017	DA-6640003858	VOLTAGE REG.	LT1117ST-33
	I018	DA-6644036001	VIDEO SWITCH	PI5V330
	I019	DA-6644036001	VIDEO SWITCH	PI5V330
	I025	DA-6645008657	ANALOG SWITCH	PI5C3253
	I030	DA-6647052050	VIDEO DECODER	SAAT7118
	I031	DA-6646000955	I-P CONVERTER	SII504
	I032	DA-6647001653	MEMORY SDRAM	HY57V643220B
	I033	DA-6644077051	AUDIO PROCESSOR	MSP3410G
	I034	DA-6646000351	LCD CONTROLLER	TP6760
	I035	DA-6646013651	SDRAM	HY57V161610
	I036	DA-6644001354	LVDS DECODER	THC63LVDM83A
	I037	DA-6644009054	MOSFET P-CH.	SI4431DY
	I038	DA-6640010950	VOLTAGE REG.	PJ78M08
	I041	DA-6640008353	VOLTAGE REG.	AP1501
	I042	DA-6644009054	MOSFET P-CH.	SI4431DY
	I043	DA-6644009054	MOSFET P-CH.	SI4431DY
	I045	DA-6640008353	VOLTAGE REG.	AP1501
	I046	DA-6644009054	MOSFET P-CH.	SI4431DY
	I047	DA-6640008353	VOLTAGE REG.	AP1501

TRANSISTORS

Q002	DA-6622002259	NPN	MMBT3904
Q003	DA-6622002259	NPN	MMBT3904
Q006	DA-6622002259	NPN	MMBT3904
Q007	DA-6622002259	NPN	MMBT3904
Q008	DA-6622002259	NPN	MMBT3904
Q009	DA-6622002259	NPN	MMBT3904
Q010	DA-6622002259	NPN	MMBT3904
Q031	DA-6622002259	NPN	MMBT3904
Q032	DA-6622002259	NPN	MMBT3904
Q033	DA-6622002259	NPN	MMBT3904
Q036	DA-6622002259	NPN	MMBT3904
Q039	DA-6622002259	NPN	MMBT3904

DIODES

D002	DA-6611012352		BAT54C
D003	DA-6613000555	SWITCHING	BAV99-7
D004	DA-6613000555	SWITCHING	BAV99-7
D005	DA-6613000555	SWITCHING	BAV99-7
D006	DA-6613003059	SWITCHING	LS4148

△	Symbol	Part No.	Part Name	Description
	D007	DA-6613003059	SWITCHING	LS4148
	D008	DA-6613003059	SWITCHING	LS4148
	D015	DA-6613000555	SWITCHING	BAV99-7
	D016	DA-6613000555	SWITCHING	BAV99-7
	D017	DA-6613000555	SWITCHING	BAV99-7
	D018	DA-6613000555	SWITCHING	BAV99-7
	D019	DA-6613000555	SWITCHING	BAV99-7
	D023	DA-6613003059	SWITCHING	LS4148
	D024	DA-6613000555	SWITCHING	BAV99-7
	D025	DA-6613000555	SWITCHING	BAV99-7
	D026	DA-6613000555	SWITCHING	BAV99-7
	D027	DA-6611026558	RECTIFIER SBD	B340
	D028	DA-6611026558	RECTIFIER SBD	B340
	D029	DA-6613000555	SWITCHING	BAV99-7
	D030	DA-6613000555	SWITCHING	BAV99-7
	D031	DA-6613000555	SWITCHING	BAV99-7
	D032	DA-6613000555	SWITCHING	BAV99-7
	D033	DA-6613000555	SWITCHING	BAV99-7
	D034	DA-6613000555	SWITCHING	BAV99-7
	D035	DA-6613000555	SWITCHING	BAV99-7
	D036	DA-6613000555	SWITCHING	BAV99-7
	D037	DA-6613000555	SWITCHING	BAV99-7
	D038	DA-6613000555	SWITCHING	BAV99-7
	D039	DA-6613000555	SWITCHING	BAV99-7
	D040	DA-6613000555	SWITCHING	BAV99-7
	D041	DA-6613000555	SWITCHING	BAV99-7
	D042	DA-6613000555	SWITCHING	BAV99-7
	D043	DA-6613000555	SWITCHING	BAV99-7
	D044	DA-6613000555	SWITCHING	BAV99-7
	D045	DA-6613000555	SWITCHING	BAV99-7
	D046	DA-6613000555	SWITCHING	BAV99-7
	D047	DA-6613000555	SWITCHING	BAV99-7
	D048	DA-6613000555	SWITCHING	BAV99-7
	D049	DA-6613000555	SWITCHING	BAV99-7
	D050	DA-6613000555	SWITCHING	BAV99-7
	D051	DA-6613000555	SWITCHING	BAV99-7
	D052	DA-6611026558	RECTIFIER SBD	B340
	D053	DA-6611026557	RECTIFIER SBD	B340
	D054	DA-6611026557	RECTIFIER SBD	B340
	D055	DA-6611026558	RECTIFIER SBD	B340
	D056	DA-6611026558	RECTIFIER SBD	B340
	D057	DA-6611026558	RECTIFIER SBD	B340

INDUCTORS

L001	DA-5062132306	FERRITE BEAD	
L002	DA-5062133008	FERRITE BEAD	
L003	DA-5062133008	FERRITE BEAD	
L004	DA-5062133009	FERRITE BEAD	
L005	DA-5062133009	FERRITE BEAD	
L006	DA-5062133009	FERRITE BEAD	
L007	DA-5062133009	FERRITE BEAD	
L008	DA-5062133009	FERRITE BEAD	
L009	DA-5062133009	FERRITE BEAD	
L010	DA-5062133009	FERRITE BEAD	
L011	DA-5062133009	FERRITE BEAD	
L012	DA-5064410129	COIL,PEAKING	100μH
L013	DA-5062122981	FERRITE BEAD	
L015	DA-5064410129	COIL,PEAKING	100μH
L019	DA-5062133003	FERRITE BEAD	
L021	DA-5062132412	COIL	0.15μH 0.25A
L022	DA-5062133003	FERRITE BEAD	
L024	DA-5062133003	FERRITE BEAD	
L025	DA-5062133008	FERRITE BEAD	
L026	DA-5062133008	FERRITE BEAD	
L027	DA-5062133008	FERRITE BEAD	
L028	DA-5062122981	FERRITE BEAD	
L029	DA-5062122981	FERRITE BEAD	
L030	DA-5062122981	FERRITE BEAD	
L031	DA-5062122981	FERRITE BEAD	
L032	DA-5062122981	FERRITE BEAD	
L033	DA-5062122981	FERRITE BEAD	
L034	DA-5062122981	FERRITE BEAD	
L035	DA-5062122981	FERRITE BEAD	
L036	DA-5062122981	FERRITE BEAD	

△ Symbol	Part No.	Part Name	Description	△ Symbol	Part No.	Part Name	Description
L037	DA-5062122981	FERRITE BEAD	33μH	CAPACITORS			
L038	DA-5062122981	FERRITE BEAD		C001	DA-5218007891	E CAP.	10μF 16V M
L039	DA-5062122981	FERRITE BEAD		C002	DA-5218007991	E CAP.	100μF 16V M
L050	DA-5062122981	FERRITE BEAD		C003	DA-5230005491	C CAP.	0.1μF 25V Z
L051	DA-5062122981	FERRITE BEAD		C004	DA-5218007891	E CAP.	10μF 16V M
L052	DA-5062133008	FERRITE BEAD		C005	DA-5218007891	E CAP.	10μF 16V M
L054	DA-5062122981	FERRITE BEAD		C006	DA-5230005491	C CAP.	0.1μF 25V Z
L056	DA-5062122981	FERRITE BEAD		C007	DA-5218007891	E CAP.	10μF 16V M
L060	DA-5062122981	FERRITE BEAD		C008	DA-5218007891	E CAP.	10μF 16V M
L075	DA-5062133008	FERRITE BEAD		C009	DA-5230005491	C CAP.	0.1μF 25V Z
L077	DA-5062133008	FERRITE BEAD	33μH	C010	DA-5230005491	C CAP.	0.1μF 25V Z
L078	DA-5062133008	FERRITE BEAD		C011	DA-5218014791	E CAP.	4.7μF 16V M
L079	DA-5062133008	FERRITE BEAD		C012	DA-5240610191	C CAP.	100pF 50V J
L081	DA-5062133003	FERRITE BEAD		C013	DA-5240610191	C CAP.	100pF 50V J
L082	DA-5062142500	COIL CHOKE		C014	DA-5240610191	C CAP.	100pF 50V J
L083	DA-5062132306	FERRITE BEAD		C015	DA-5240610191	C CAP.	100pF 50V J
L084	DA-5062122981	FERRITE BEAD		C016	DA-5240610191	C CAP.	100pF 50V J
L085	DA-5062133003	FERRITE BEAD		C017	DA-5240610191	C CAP.	100pF 50V J
L086	DA-5062120113	FERRITE BEAD		C018	DA-5240610191	C CAP.	100pF 50V J
L087	DA-5062133003	FERRITE BEAD		C019	DA-5240610191	C CAP.	100pF 50V J
L088	DA-5062133003	FERRITE BEAD	33μH	C020	DA-5240610191	C CAP.	100pF 50V J
L090	DA-5062133003	FERRITE BEAD		C021	DA-5230005491	C CAP.	0.1μF 25V Z
L091	DA-5062133003	FERRITE BEAD		C022	DA-5230005491	C CAP.	0.1μF 25V M
L092	DA-5062133003	FERRITE BEAD		C023	DA-5230005491	C CAP.	0.1μF 25V Z
L093	DA-5062133003	FERRITE BEAD		C032	DA-5240610191	C CAP.	100pF 50V J
L094	DA-5062133003	FERRITE BEAD		C033	DA-5230005491	C CAP.	0.1μF 25V Z
L095	DA-5062133003	FERRITE BEAD		C034	DA-5230005491	C CAP.	0.1μF 25V Z
L096	DA-5062133003	FERRITE BEAD		C035	DA-5230005491	C CAP.	0.1μF 25V Z
L097	DA-5062133003	FERRITE BEAD		C037	DA-5230005491	C CAP.	0.1μF 25V Z
L098	DA-5062132307	FERRITE BEAD		C038	DA-5230005491	C CAP.	0.1μF 25V Z
L099	DA-5062132307	FERRITE BEAD	33μH	C056	DA-5218007891	E CAP.	10μF 16V M
L100	DA-5062132306	FERRITE BEAD		C057	DA-5218007891	E CAP.	10μF 16V M
L101	DA-5062132306	FERRITE BEAD		C058	DA-5230005491	C CAP.	0.1μF 25V Z
L102	DA-5062132306	FERRITE BEAD		C059	DA-5230005491	C CAP.	0.1μF 25V Z
L103	DA-5062122981	FERRITE BEAD		C060	DA-5230610291	C CAP.	1000pF 50V K
L104	DA-5062122981	FERRITE BEAD		C061	DA-5230005491	C CAP.	0.1μF 25V Z
L105	DA-5062122981	FERRITE BEAD		C062	DA-5230005491	C CAP.	0.1μF 25V Z
L106	DA-5062132306	FERRITE BEAD		C063	DA-5230610291	C CAP.	1000pF 50V K
L107	DA-5062122981	FERRITE BEAD		C064	DA-5230005491	C CAP.	0.1μF 25V Z
L108	DA-5062122981	FERRITE BEAD		C065	DA-5230610291	C CAP.	1000pF 50V K
L109	DA-5062133014	FERRITE BEAD	33μH	C066	DA-5230005491	C CAP.	0.1μF 25V Z
L110	DA-5062142500	COIL CHOKE		C067	DA-5230005491	C CAP.	0.1μF 25V Z
L111	DA-5062132306	FERRITE BEAD		C068	DA-5230005491	C CAP.	0.1μF 25V Z
L112	DA-5062133014	FERRITE BEAD		C069	DA-5230005491	C CAP.	0.1μF 25V Z
L113	DA-5062133003	FERRITE BEAD		C070	DA-5230005491	C CAP.	0.1μF 25V Z
L114	DA-5062132306	FERRITE BEAD		C071	DA-5230610291	C CAP.	1000pF 50V K
L115	DA-5062133003	FERRITE BEAD		C072	DA-5230005491	C CAP.	0.1μF 25V Z
L116	DA-5062132306	FERRITE BEAD		C073	DA-5230610291	C CAP.	1000pF 50V K
L118	DA-5062133003	FERRITE BEAD		C074	DA-5230005491	C CAP.	0.1μF 25V Z
L119	DA-5062133003	FERRITE BEAD		C075	DA-5218007891	E CAP.	10μF 16V M
L120	DA-5062133003	FERRITE BEAD	33μH	C076	DA-5218007891	E CAP.	10μF 16V M
L121	DA-5062132306	FERRITE BEAD		C077	DA-5230005491	C CAP.	0.1μF 25V Z
L122	DA-5062122981	FERRITE BEAD		C078	DA-5230647391	C CAP.	0.047μF 50V K
L123	DA-5062132306	FERRITE BEAD		C079	DA-5230647391	C CAP.	0.047μF 50V K
L125	DA-5062132304	FERRITE BEAD		C080	DA-5240647091	C CAP.	47pF 50V J
L126	DA-5062122981	FERRITE BEAD		C081	DA-5230610291	C CAP.	1000pF 50V K
L127	DA-5062133008	FERRITE BEAD		C082	DA-5218008991	E CAP.	47μF 16V M
L128	DA-5062133008	FERRITE BEAD		C083	DA-5230005491	C CAP.	0.1μF 25V Z
L129	DA-5062133008	FERRITE BEAD		C084	DA-5230005491	C CAP.	0.1μF 25V Z
L130	DA-5062133008	FERRITE BEAD		C085	DA-5230647391	C CAP.	0.047μF 50V K
L131	DA-5062142500	COIL CHOKE	33μH	C086	DA-5230019091	C CAP.	0.082μF 16V Z
L132	DA-5062132306	FERRITE BEAD		C087	DA-5230682291	C CAP.	8200pF 50V K
LP01	DA-5062128505	FERRITE BEAD		C088	DA-5230005491	C CAP.	0.1μF 25V Z
LP02	DA-5062128505	FERRITE BEAD		C089	DA-5230005491	C CAP.	0.1μF 25V Z
LP03	DA-5062128505	FERRITE BEAD		C090	DA-5218008991	E CAP.	47μF 16V M
LP04	DA-5062128505	FERRITE BEAD		C091	DA-5240647091	C CAP.	47pF 50V J
LP05	DA-5062128505	FERRITE BEAD		C093	DA-5218014791	E CAP.	4.7μF 16V M
LP06	DA-5062128505	FERRITE BEAD		C094	DA-5230005491	C CAP.	0.1μF 25V Z
LP07	DA-5062127417	FERRITE BEAD		C095	DA-5240610191	C CAP.	100pF 50V J
LP08	DA-5062127417	FERRITE BEAD		C098	DA-5240647091	C CAP.	47pF 50V J
LP09	DA-5062127417	FERRITE BEAD	33μH	C102	DA-5230005491	C CAP.	0.1μF 25V Z
LP10	DA-5062127417	FERRITE BEAD		C105	DA-5230005491	C CAP.	0.1μF 25V Z
LP11	DA-5062127417	FERRITE BEAD		C107	DA-5218008991	E CAP.	47μF 16V M
LP12	DA-5062127417	FERRITE BEAD		C108	DA-5240647091	C CAP.	47pF 50V J

△ Symbol	Part No.	Part Name	Description		△ Symbol	Part No.	Part Name	Description	
C109	DA-5230005491	C CAP.	0.1μF 25V	Z	C375	DA-5230005491	C CAP.	0.1μF 25V	Z
C110	DA-5230005491	C CAP.	0.1μF 25V	Z	C376	DA-5230005491	C CAP.	0.1μF 25V	Z
C111	DA-5230005491	C CAP.	0.1μF 25V	Z	C377	DA-5230007791	C CAP.	2.2μF 16V	Z
C112	DA-5230005491	C CAP.	0.1μF 25V	Z	C378	DA-5240647091	C CAP.	47pF 50V	J
C116	DA-5218008991	E CAP.	47μF 16V	M	C379	DA-5230007791	C CAP.	2.2μF 16V	Z
C117	DA-5218008991	E CAP.	47μF 16V	M	C380	DA-5240627091	C CAP.	27pF 50V	J
C118	DA-5218008991	E CAP.	47μF 16V	M	C381	DA-5230007791	C CAP.	2.2μF 16V	Z
C139	DA-5230005491	C CAP.	0.1μF 25V	Z	C382	DA-5218007891	E CAP.	10μF 16V	M
C141	DA-5230005491	C CAP.	0.1μF 25V	Z	C383	DA-5230005491	C CAP.	0.1μF 25V	Z
C142	DA-5230005491	C CAP.	0.1μF 25V	Z	C384	DA-5230005491	C CAP.	0.1μF 25V	Z
C143	DA-5230005491	C CAP.	0.1μF 25V	Z	C385	DA-5230005491	C CAP.	0.1μF 25V	Z
C188	DA-5230005491	C CAP.	0.1μF 25V	Z	C386	DA-5230005491	C CAP.	0.1μF 25V	Z
C203	DA-5218007891	E CAP.	10μF 16V	M	C387	DA-5230005491	C CAP.	0.1μF 25V	Z
C204	DA-5218007891	E CAP.	10μF 16V	M	C388	DA-5230005491	C CAP.	0.1μF 25V	Z
C205	DA-5218007891	E CAP.	10μF 16V	M	C389	DA-5230005491	C CAP.	0.1μF 25V	Z
C207	DA-5230005491	C CAP.	0.1μF 25V	Z	C390	DA-5230005491	C CAP.	0.1μF 25V	Z
C218	DA-5230005491	C CAP.	0.1μF 25V	Z	C391	DA-5230005491	C CAP.	0.1μF 25V	Z
C219	DA-5218007891	E CAP.	10μF 16V	M	C392	DA-5240647091	C CAP.	47pF 50V	J
C220	DA-5230005491	C CAP.	0.1μF 25V	Z	C393	DA-5230007791	C CAP.	2.2μF 16V	Z
C235	DA-5240656091	C CAP.	56pF 50V	J	C394	DA-5230005491	C CAP.	0.1μF 25V	Z
C245	DA-5240656091	C CAP.	56pF 50V	J	C395	DA-5218007891	E CAP.	10μF 16V	M
C275	DA-5240627091	C CAP.	27pF 50V	J	C396	DA-5230005491	C CAP.	0.1μF 25V	Z
C319	DA-5230005491	C CAP.	0.1μF 25V	Z	C397	DA-5230005491	C CAP.	0.1μF 25V	Z
C320	DA-5218007891	E CAP.	10μF 16V	M	C398	DA-5230005491	C CAP.	0.1μF 25V	Z
C321	DA-5230004191	C CAP.	0.33μF 16V	M	C399	DA-5230005491	C CAP.	0.1μF 25V	Z
C322	DA-5218007891	E CAP.	10μF 16V	M	C400	DA-5230005491	C CAP.	0.1μF 25V	Z
C323	DA-5230004191	C CAP.	0.33μF 16V	M	C401	DA-5230005491	C CAP.	0.1μF 25V	Z
C324	DA-5230005491	C CAP.	0.1μF 25V	Z	C402	DA-5230005491	C CAP.	0.1μF 25V	Z
C325	DA-5230005491	C CAP.	0.1μF 25V	Z	C403	DA-5230005491	C CAP.	0.1μF 25V	Z
C326	DA-5230005491	C CAP.	0.1μF 25V	Z	C404	DA-5230005491	C CAP.	0.1μF 25V	Z
C327	DA-5230005491	C CAP.	0.1μF 25V	Z	C405	DA-5230005491	C CAP.	0.1μF 25V	Z
C328	DA-5230005491	C CAP.	0.1μF 25V	Z	C406	DA-5230005491	C CAP.	0.1μF 25V	Z
C329	DA-5230004191	C CAP.	0.33μF 16V	M	C407	DA-5230005491	C CAP.	0.1μF 25V	Z
C330	DA-5230004191	C CAP.	0.33μF 16V	M	C408	DA-5230005491	C CAP.	0.1μF 25V	Z
C331	DA-5230005491	C CAP.	0.1μF 25V	Z	C409	DA-5230005491	C CAP.	0.1μF 25V	Z
C332	DA-5230005491	C CAP.	0.1μF 25V	Z	C410	DA-5230005491	C CAP.	0.1μF 25V	Z
C333	DA-5230005491	C CAP.	0.1μF 25V	Z	C411	DA-5230005491	C CAP.	0.1μF 25V	Z
C334	DA-5230005491	C CAP.	0.1μF 25V	Z	C412	DA-5230005491	C CAP.	0.1μF 25V	Z
C335	DA-5230005491	C CAP.	0.1μF 25V	Z	C413	DA-5230005491	C CAP.	0.1μF 25V	Z
C336	DA-5230005491	C CAP.	0.1μF 25V	Z	C414	DA-5230005491	C CAP.	0.1μF 25V	Z
C337	DA-5218007891	E CAP.	10μF 16V	M	C415	DA-5230005491	C CAP.	0.1μF 25V	Z
C338	DA-5218007891	E CAP.	10μF 16V	M	C416	DA-5230005491	C CAP.	0.1μF 25V	Z
C339	DA-5218007891	E CAP.	10μF 16V	M	C417	DA-5218008891	E CAP.	22μF 16V	M
C340	DA-5230005491	C CAP.	0.1μF 25V	Z	C418	DA-5230005491	C CAP.	0.1μF 25V	Z
C341	DA-5230005491	C CAP.	0.1μF 25V	Z	C419	DA-5230610291	C CAP.	1000pF 50V	K
C342	DA-5230005491	C CAP.	0.1μF 25V	Z	C420	DA-5230005491	C CAP.	0.1μF 25V	Z
C343	DA-5230005491	C CAP.	0.1μF 25V	Z	C421	DA-5230005491	C CAP.	0.1μF 25V	Z
C344	DA-5218007891	E CAP.	10μF 16V	M	C422	DA-5230005491	C CAP.	0.1μF 25V	Z
C345	DA-5230005491	C CAP.	0.1μF 25V	Z	C423	DA-5230005491	C CAP.	0.1μF 25V	Z
C346	DA-5230005491	C CAP.	0.1μF 25V	Z	C424	DA-5230005491	C CAP.	0.1μF 25V	Z
C347	DA-5230005491	C CAP.	0.1μF 25V	Z	C425	DA-5230005491	C CAP.	0.1μF 25V	Z
C348	DA-5230005491	C CAP.	0.1μF 25V	Z	C426	DA-5230005491	C CAP.	0.1μF 25V	Z
C349	DA-5230005491	C CAP.	0.1μF 25V	Z	C427	DA-5230005491	C CAP.	0.1μF 25V	Z
C350	DA-5230005491	C CAP.	0.1μF 25V	Z	C428	DA-5230005491	C CAP.	0.1μF 25V	Z
C351	DA-5230005491	C CAP.	0.1μF 25V	Z	C429	DA-5218007891	E CAP.	10μF 16V	M
C352	DA-5240000891	C CAP.	22pF 25V	J	C430	DA-5218007891	E CAP.	10μF 16V	M
C353	DA-5230005491	C CAP.	0.1μF 25V	Z	C431	DA-5230005491	C CAP.	0.1μF 25V	Z
C354	DA-5240000891	C CAP.	22pF 25V	J	C432	DA-5230005491	C CAP.	0.1μF 25V	Z
C355	DA-5230647391	C CAP.	0.047μF 50V	K	C433	DA-5230005491	C CAP.	0.1μF 25V	Z
C356	DA-5230005491	C CAP.	0.1μF 25V	Z	C434	DA-5230005491	C CAP.	0.1μF 25V	Z
C357	DA-5230005491	C CAP.	0.1μF 25V	Z	C435	DA-5230005491	C CAP.	0.1μF 25V	Z
C358	DA-5230005491	C CAP.	0.1μF 25V	Z	C436	DA-5218007891	E CAP.	10μF 16V	M
C359	DA-5230647391	C CAP.	0.047μF 50V	K	C437	DA-5230005491	C CAP.	0.1μF 25V	Z
C360	DA-5230005491	C CAP.	0.1μF 25V	Z	C438	DA-5240622191	C CAP.	220pF 50V	J
C361	DA-5218007891	E CAP.	10μF 16V	M	C439	DA-5240627091	C CAP.	27pF 50V	J
C362	DA-5230647391	C CAP.	0.047μF 50V	K	C440	DA-5218014791	E CAP.	4.7μF 16V	M
C363	DA-5240615191	C CAP.	150pF 50V	J	C441	DA-5240627091	C CAP.	27pF 50V	J
C364	DA-5230647391	C CAP.	0.047μF 50V	K	C442	DA-5240627091	C CAP.	27pF 50V	J
C366	DA-5230647391	C CAP.	0.047μF 50V	K	C443	DA-5240627091	C CAP.	27pF 50V	J
C367	DA-5230647391	C CAP.	0.047μF 50V	K	C444	DA-5240627091	C CAP.	27pF 50V	J
C368	DA-5230647391	C CAP.	0.047μF 50V	K	C447	DA-5230005491	C CAP.	0.1μF 25V	Z
C369	DA-5230647391	C CAP.	0.047μF 50V	K	C448	DA-5230005491	C CAP.	0.1μF 25V	Z
C370	DA-5218007891	E CAP.	10μF 16V	M	C449	DA-5230005491	C CAP.	0.1μF 25V	Z
C371	DA-5230610291	C CAP.	1000pF 50V	K	C450	DA-5230005491	C CAP.	0.1μF 25V	Z
C372	DA-5218008891	E CAP.	22μF 16V	M	C451	DA-5230005491	C CAP.	0.1μF 25V	Z
C373	DA-5218008891	E CAP.	22μF 16V	M	C452	DA-5230005491	C CAP.	0.1μF 25V	Z
C374	DA-5240647191	C CAP.	470pF 50V	J	C455	DA-5218006391	E CAP.	220μF 16V	M

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△ Symbol	Part No.	Part Name	Description	△ Symbol	Part No.	Part Name	Description
R092	DA-5134318009	MG RES.	18Ω 1/16W J	R203	DA-5134362109	MG RES.	620Ω 1/16W J
R093	DA-5134300009	MG RES.	0Ω 1/16W J	R204	DA-5134362109	MG RES.	620Ω 1/16W J
R094	DA-5134310209	MG RES.	1KΩ 1/16W J	R205	DA-5134362109	MG RES.	620Ω 1/16W J
R095	DA-5134300009	MG RES.	0Ω 1/16W J	R206	DA-5134362109	MG RES.	620Ω 1/16W J
R096	DA-5134318009	MG RES.	18Ω 1/16W J	R207	DA-5134300009	MG RES.	0Ω 1/16W J
R097	DA-5134330209	MG RES.	3KΩ 1/16W J	R208	DA-5134300009	MG RES.	0Ω 1/16W J
R098	DA-5134351209	MG RES.	5.1KΩ 1/16W J	R209	DA-5134300009	MG RES.	0Ω 1/16W J
R099	DA-5134310309	MG RES.	10KΩ 1/16W J	R210	DA-5134300009	MG RES.	0Ω 1/16W J
R100	DA-5134310309	MG RES.	10KΩ 1/16W J	R211	DA-5134362109	MG RES.	620Ω 1/16W J
R103	DA-5134351209	MG RES.	5.1KΩ 1/16W J	R212	DA-5134362109	MG RES.	620Ω 1/16W J
R104	DA-5134324309	MG RES.	24KΩ 1/16W J	R213	DA-5134362109	MG RES.	620Ω 1/16W J
R107	DA-5134310109	MG RES.	100Ω 1/16W J	R214	DA-5134362109	MG RES.	620Ω 1/16W J
R108	DA-5134310109	MG RES.	100Ω 1/16W J	R224	DA-5134300009	MG RES.	0Ω 1/16W J
R110	DA-5134318309	MG RES.	18KΩ 1/16W J	R225	DA-5134300009	MG RES.	0Ω 1/16W J
R111	DA-5134310209	MG RES.	1KΩ 1/16W J	R226	DA-5134300009	MG RES.	0Ω 1/16W J
R112	DA-5134310109	MG RES.	100Ω 1/16W J	R227	DA-5134300009	MG RES.	0Ω 1/16W J
R114	DA-5134351209	MG RES.	5.1KΩ 1/16W J	R228	DA-5134300009	MG RES.	0Ω 1/16W J
R115	DA-5134310209	MG RES.	1KΩ 1/16W J	R229	DA-5134300009	MG RES.	0Ω 1/16W J
R116	DA-5134318309	MG RES.	18KΩ 1/16W J	R230	DA-5134300009	MG RES.	0Ω 1/16W J
R117	DA-5134330209	MG RES.	3KΩ 1/16W J	R231	DA-5134300009	MG RES.	0Ω 1/16W J
R118	DA-5134300009	MG RES.	0Ω 1/16W J	R234	DA-5134300009	MG RES.	0Ω 1/16W J
R119	DA-5134300009	MG RES.	0Ω 1/16W J	R235	DA-5134300009	MG RES.	0Ω 1/16W J
R120	DA-5134300009	MG RES.	0Ω 1/16W J	R250	DA-5134310109	MG RES.	100Ω 1/16W J
R121	DA-5134300009	MG RES.	0Ω 1/16W J	R251	DA-5134300009	MG RES.	0Ω 1/16W J
R122	DA-5134300009	MG RES.	0Ω 1/16W J	R252	DA-5134310109	MG RES.	100Ω 1/16W J
R123	DA-5134300009	MG RES.	0Ω 1/16W J	R253	DA-5134300009	MG RES.	0Ω 1/16W J
R127	DA-5134300009	MG RES.	0Ω 1/16W J	R254	DA-5134310109	MG RES.	100Ω 1/16W J
R128	DA-5134347209	MG RES.	4.7KΩ 1/16W J	R255	DA-5134300009	MG RES.	0Ω 1/16W J
R129	DA-5134347209	MG RES.	4.7KΩ 1/16W J	R256	DA-5134310109	MG RES.	100Ω 1/16W J
R134	DA-5134300009	MG RES.	0Ω 1/16W J	R257	DA-5134300009	MG RES.	0Ω 1/16W J
R136	DA-5134330209	MG RES.	3KΩ 1/16W J	R258	DA-5134300009	MG RES.	0Ω 1/16W J
R137	DA-5134347209	MG RES.	4.7KΩ 1/16W J	R261	DA-5134324209	MG RES.	2.4KΩ 1/16W J
R138	DA-5134310209	MG RES.	1KΩ 1/16W J	R262	DA-5134324209	MG RES.	2.4KΩ 1/16W J
R139	DA-5134310209	MG RES.	1KΩ 1/16W J	R263	DA-5134310209	MG RES.	1KΩ 1/16W J
R140	DA-5134330209	MG RES.	3KΩ 1/16W J	R265	DA-5134300009	MG RES.	0Ω 1/16W J
R141	DA-5134347209	MG RES.	4.7KΩ 1/16W J	R267	DA-5134324209	MG RES.	2.4KΩ 1/16W J
R143	DA-5134310209	MG RES.	1KΩ 1/16W J	R268	DA-5134324209	MG RES.	2.4KΩ 1/16W J
R144	DA-5134347209	MG RES.	4.7KΩ 1/16W J	R269	DA-5134300009	MG RES.	0Ω 1/16W J
R145	DA-5134330209	MG RES.	3KΩ 1/16W J	R270	DA-5134310309	MG RES.	10KΩ 1/16W J
R156	DA-5134300009	MG RES.	0Ω 1/16W J	R271	DA-5134310309	MG RES.	10KΩ 1/16W J
R161	DA-5134300009	MG RES.	0Ω 1/16W J	R275	DA-5134356009	MG RES.	56Ω 1/16W J
R166	DA-5134300009	MG RES.	0Ω 1/16W J	R276	DA-5134324209	MG RES.	2.4KΩ 1/16W J
R167	DA-5134300009	MG RES.	0Ω 1/16W J	R277	DA-5134347309	MG RES.	47KΩ 1/16W J
R168	DA-5134300009	MG RES.	0Ω 1/16W J	R278	DA-5134324209	MG RES.	2.4KΩ 1/16W J
R169	DA-5134318009	MG RES.	18Ω 1/16W J	R279	DA-5134310209	MG RES.	1KΩ 1/16W J
R170	DA-5134300009	MG RES.	0Ω 1/16W J	R280	DA-5134310209	MG RES.	1KΩ 1/16W J
R171	DA-5134300009	MG RES.	0Ω 1/16W J	R281	DA-5134347309	MG RES.	47KΩ 1/16W J
R172	DA-5134318009	MG RES.	18Ω 1/16W J	R282	DA-5134347309	MG RES.	47KΩ 1/16W J
R173	DA-5134318009	MG RES.	18Ω 1/16W J	R285	DA-5134300009	MG RES.	0Ω 1/16W J
R174	DA-5134300009	MG RES.	0Ω 1/16W J	R286	DA-5134300009	MG RES.	0Ω 1/16W J
R175	DA-5134300009	MG RES.	0Ω 1/16W J	R287	DA-5134300009	MG RES.	0Ω 1/16W J
R176	DA-5134356009	MG RES.	56Ω 1/16W J	R288	DA-5134300009	MG RES.	0Ω 1/16W J
R177	DA-5134356009	MG RES.	56Ω 1/16W J	R296	DA-5134300009	MG RES.	0Ω 1/16W J
R178	DA-5134356009	MG RES.	56Ω 1/16W J	R297	DA-5134300009	MG RES.	0Ω 1/16W J
R179	DA-5134300009	MG RES.	0Ω 1/16W J	R299	DA-5134300009	MG RES.	0Ω 1/16W J
R180	DA-5134300009	MG RES.	0Ω 1/16W J	R300	DA-5134300009	MG RES.	0Ω 1/16W J
R181	DA-5134300009	MG RES.	0Ω 1/16W J	R303	DA-5134300009	MG RES.	0Ω 1/16W J
R182	DA-5134362109	MG RES.	620Ω 1/16W J	R305	DA-5134300009	MG RES.	0Ω 1/16W J
R183	DA-5134362109	MG RES.	620Ω 1/16W J	R306	DA-5134300009	MG RES.	0Ω 1/16W J
R184	DA-5134362109	MG RES.	620Ω 1/16W J	R307	DA-5134300009	MG RES.	0Ω 1/16W J
R185	DA-5134362109	MG RES.	620Ω 1/16W J	R308	DA-5134300009	MG RES.	0Ω 1/16W J
R187	DA-5134362109	MG RES.	620Ω 1/16W J	R309	DA-5134300009	MG RES.	0Ω 1/16W J
R188	DA-5134362109	MG RES.	620Ω 1/16W J	R310	DA-5134300009	MG RES.	0Ω 1/16W J
R189	DA-5134362109	MG RES.	620Ω 1/16W J	R317	DA-5134333009	MG RES.	33Ω 1/16W J
R190	DA-5134362109	MG RES.	620Ω 1/16W J	R318	DA-5134333009	MG RES.	33Ω 1/16W J
R191	DA-5134375009	MG RES.	75Ω 1/16W J	R326	DA-5134300009	MG RES.	0Ω 1/16W J
R192	DA-5134375009	MG RES.	75Ω 1/16W J	R328	DA-5134310309	MG RES.	10KΩ 1/16W J
R193	DA-5134310309	MG RES.	10KΩ 1/16W J	R331	DA-5134300009	MG RES.	0Ω 1/16W J
R194	DA-5134362109	MG RES.	620Ω 1/16W J	R332	DA-5134300009	MG RES.	0Ω 1/16W J
R195	DA-5134362109	MG RES.	620Ω 1/16W J	R333	DA-5134300009	MG RES.	0Ω 1/16W J
R196	DA-5134310309	MG RES.	10KΩ 1/16W J	R334	DA-5134347209	MG RES.	4.7KΩ 1/16W J
R197	DA-5134362109	MG RES.	620Ω 1/16W J	R338	DA-5134333209	MG RES.	3.3KΩ 1/16W J
R198	DA-5134362109	MG RES.	620Ω 1/16W J	R339	DA-5134110009	MG RES. 1%	100Ω 1/16W J
R199	DA-5134362109	MG RES.	620Ω 1/16W J	R340	DA-5134347209	MG RES.	4.7KΩ 1/16W J
R200	DA-5134362109	MG RES.	620Ω 1/16W J	R341	DA-5134110019	MG RES. 1%	1KΩ 1/16W J
R201	DA-5134362109	MG RES.	620Ω 1/16W J	R344	DA-5134130019	MG RES. 1%	3KΩ 1/16W J
R202	DA-5134362109	MG RES.	620Ω 1/16W J	R345	DA-5134310309	MG RES.	10KΩ 1/16W J

△ Symbol	Part No.	Part Name	Description	△ Symbol	Part No.	Part Name	Description
R347	DA-5134347209	MG RES.	4.7KΩ 1/16W J	R448	DA-5134110029	MG RES. 1%	10KΩ 1/16W J
R349	DA-5134310309	MG RES.	10KΩ 1/16W J	R449	DA-5134112019	MG RES. 1%	1.2KΩ 1/16W J
R350	DA-5134375009	MG RES.	75Ω 1/16W J	R462	DA-5134310309	MG RES.	10KΩ 1/16W J
R351	DA-5134375009	MG RES.	75Ω 1/16W J	R480	DA-5134300009	MG RES.	Ω 1/16W J
R352	DA-5134310309	MG RES.	10KΩ 1/16W J	R481	DA-5134300009	MG RES.	Ω 1/16W J
R354	DA-5134347009	MG RES.	47Ω 1/16W J	R482	DA-5134300009	MG RES.	Ω 1/16W J
R356	DA-5134310309	MG RES.	10KΩ 1/16W J	R483	DA-5134300009	MG RES.	Ω 1/16W J
R357	DA-5134310309	MG RES.	10KΩ 1/16W J	R484	DA-5134300009	MG RES.	Ω 1/16W J
R361	DA-5134310309	MG RES.	10KΩ 1/16W J	R485	DA-5134300009	MG RES.	Ω 1/16W J
R364	DA-5134310109	MG RES.	100Ω 1/16W J	RP24	DA-5160310902	NETWORK RES.	22Ω x4 1/16W
R366	DA-5134310309	MG RES.	10KΩ 1/16W J	RP25	DA-5160310902	NETWORK RES.	22Ω x4 1/16W
R367	DA-5134310309	MG RES.	10KΩ 1/16W J	RP26	DA-5160310902	NETWORK RES.	22Ω x4 1/16W
R368	DA-5134310309	MG RES.	10KΩ 1/16W J	RP27	DA-5160310902	NETWORK RES.	22Ω x4 1/16W
R373	DA-5134310009	MG RES.	10Ω 1/16W J	RP28	DA-5160310902	NETWORK RES.	22Ω x4 1/16W
R376	DA-5134310009	MG RES.	10Ω 1/16W J	RP29	DA-5160310902	NETWORK RES.	22Ω x4 1/16W
R377	DA-5134310009	MG RES.	10Ω 1/16W J	RP30	DA-5160310902	NETWORK RES.	22Ω x4 1/16W
R378	DA-5134310009	MG RES.	10Ω 1/16W J	RP31	DA-5160310902	NETWORK RES.	22Ω x4 1/16W
R379	DA-5134310009	MG RES.	10Ω 1/16W J	CONNECTORS			
R381	DA-5134300009	MG RES.	Ω 1/16W J	△ P001	DA-5056300713	DC IN JACK	
R382	DA-5134300009	MG RES.	Ω 1/16W J	P002	DA-5056416038	10P CONN.	
R384	DA-5134310009	MG RES.	10Ω 1/16W J	P003	DA-5056415685	6P CONN.	
R385	DA-5134300009	MG RES.	Ω 1/16W J	P004	DA-5056415475	4P CONN.	
R387	DA-5134310209	MG RES.	1KΩ 1/16W J	P005	DA-5056415413	4P CONN.	
R388	DA-5134310209	MG RES.	1KΩ 1/16W J	P006	DA-5056406005	60P CONN.	
R389	DA-5134310309	MG RES.	10KΩ 1/16W J	P007	DA-5056415852	8P CONN.	
R390	DA-5134347309	MG RES.	47KΩ 1/16W J	P008	DA-5056310015	20P TIN SMD	
R391	DA-5134310309	MG RES.	10KΩ 1/16W J	P010	DA-5056415231	2P CONN.	
R392	DA-5134300009	MG RES.	Ω 1/16W J	P011	DA-5056415231	2P CONN.	
R393	DA-5134300009	MG RES.	Ω 1/16W J	P012	DA-5056403005	30P CONN.	
R394	DA-5134356009	MG RES.	56Ω 1/16W J	P013	DA-5056415326	3P CONN.	
R395	DA-5134356009	MG RES.	56Ω 1/16W J	P015	DA-5056302054	RCA JACK (WHITE)	
R396	DA-5134356009	MG RES.	56Ω 1/16W J	P016	DA-5056302039	RCA JACK (RED)	
R397	DA-5134318009	MG RES.	18Ω 1/16W J	P017	DA-5056302059	RCA JACK (BLACK)	
R398	DA-5134347009	MG RES.	47Ω 1/16W J	P018	DA-5056415326	3P CONN.	
R399	DA-5134310309	MG RES.	10KΩ 1/16W J	PJ01	DA-5056309125	D-SUB VGA	
R400	DA-5134300009	MG RES.	Ω 1/16W J	PJ02	DA-5056300105	AUDIO JACK	
R401	DA-5134300009	MG RES.	Ω 1/16W J	OTHERS			
R402	DA-5134300009	MG RES.	Ω 1/16W J	X004	DA-6699134506	XTAL	24.576MHz
R403	DA-5134300009	MG RES.	Ω 1/16W J	X006	DA-6699153630	XTAL	18.432MHz
R404	DA-5134300009	MG RES.	Ω 1/16W J	X007	DA-6699114106	XTAL	12MHz
R405	DA-5134310309	MG RES.	10KΩ 1/16W J	X008	DA-6699106034	XTAL	14.318MHz
R406	DA-5134347209	MG RES.	4.7KΩ 1/16W J	△ F001	DA-5054470091	FUSE	125V/7A
R407	DA-5134300009	MG RES.	Ω 1/16W J	IR SENSOR PWB ASSEMBLY			
R409	DA-5134300009	MG RES.	Ω 1/16W J	△ Symbol	Part No.	Part Name	Description
R412	DA-5134315309	MG RES.	15KΩ 1/16W J		DA-5097627803-2	IR SENSOR PWB ASS'Y	
R413	DA-5134310209	MG RES.	1KΩ 1/16W J	IC			
R414	DA-5134347309	MG RES.	47KΩ 1/16W J	IR601	DA-6642003904	IR SENSOR	TSOP4838(IR)
R415	DA-5134310309	MG RES.	10KΩ 1/16W J	DIODE			
R416	DA-5134324209	MG RES.	2.4KΩ 1/16W J	D601	DA-6618018175	LED	L-158EGC-TR-H
R417	DA-5134322909	MG RES.	2.2Ω 1/16W J	CAPACITOR			
R419	DA-5134322909	MG RES.	2.2Ω 1/16W J	C601	DA-5218007991	E CAP.	100μF 16V M
R420	DA-5134324209	MG RES.	2.4KΩ 1/16W J	RESISTOR			
R422	DA-5134310209	MG RES.	1KΩ 1/16W J	R601	DA-5134300009	MG RES.	0 1/16W J
R424	DA-5134300009	MG RES.	Ω 1/16W J	CONNECTOR			
R425	DA-5134310509	MG RES.	1MΩ 1/16W J	P601	DA-5056415685	6P CONN.	2011P06H
R426	DA-5134310209	MG RES.	1KΩ 1/16W J				
R427	DA-5134318009	MG RES.	18Ω 1/16W J				
R428	DA-5134356009	MG RES.	56Ω 1/16W J				
R429	DA-5134318009	MG RES.	18Ω 1/16W J				
R430	DA-5134318009	MG RES.	18Ω 1/16W J				
R431	DA-5134318009	MG RES.	18Ω 1/16W J				
R432	DA-5134356009	MG RES.	56Ω 1/16W J				
R433	DA-5134356009	MG RES.	56Ω 1/16W J				
R434	DA-5134318009	MG RES.	18Ω 1/16W J				
R435	DA-5134310009	MG RES.	10Ω 1/16W J				
R436	DA-5134300009	MG RES.	Ω 1/16W J				
R437	DA-5134318009	MG RES.	18Ω 1/16W J				
R438	DA-5134318009	MG RES.	18Ω 1/16W J				
R439	DA-5134300009	MG RES.	Ω 1/16W J				
R440	DA-5134300009	MG RES.	Ω 1/16W J				
R441	DA-5134300009	MG RES.	Ω 1/16W J				
R442	DA-5134300009	MG RES.	Ω 1/16W J				
R443	DA-5134191019	MG RES. 1%	9.1KΩ 1/16W J				
R444	DA-5134168009	MG RES. 1%	680Ω 1/16W J				
R445	DA-5134300009	MG RES.	Ω 1/16W J				
R446	DA-5134300009	MG RES.	Ω 1/16W J				
R447	DA-5134310009	MG RES.	10Ω 1/16W J				

AV JACK PWB ASSEMBLY

△ Symbol	Part No.	Part Name	Description
DIODES			
D001	DA-6613000555	SWITCHING	BAV99-7
D002	DA-6613000555	SWITCHING	BAV99-7
D003	DA-6613000555	SWITCHING	BAV99-7
D004	DA-6613000555	SWITCHING	BAV99-7
D005	DA-6613000555	SWITCHING	BAV99-7
D006	DA-6613000555	SWITCHING	BAV99-7
D007	DA-6613000555	SWITCHING	BAV99-7
D008	DA-6613000555	SWITCHING	BAV99-7
D009	DA-6613000555	SWITCHING	BAV99-7
D010	DA-6613000555	SWITCHING	BAV99-7
D011	DA-6613000555	SWITCHING	BAV99-7
D012	DA-6613000555	SWITCHING	BAV99-7
D013	DA-6613000555	SWITCHING	BAV99-7
D014	DA-6613000555	SWITCHING	BAV99-7
D015	DA-6613000555	SWITCHING	BAV99-7
D016	DA-6613000555	SWITCHING	BAV99-7
D017	DA-6613000555	SWITCHING	BAV99-7
D018	DA-6613000555	SWITCHING	BAV99-7
D019	DA-6613000555	SWITCHING	BAV99-7
D020	DA-6613000555	SWITCHING	BAV99-7
D021	DA-6613000555	SWITCHING	BAV99-7
D022	DA-6613000555	SWITCHING	BAV99-7
D023	DA-6613000555	SWITCHING	BAV99-7
D024	DA-6613000555	SWITCHING	BAV99-7
D025	DA-6613000555	SWITCHING	BAV99-7
D026	DA-6613000555	SWITCHING	BAV99-7
D027	DA-6613000555	SWITCHING	BAV99-7

INDUCTORS			
L001	DA-5062133008	FERRITE BEAD	
L002	DA-5062133008	FERRITE BEAD	
L003	DA-5062133008	FERRITE BEAD	
L004	DA-5062133008	FERRITE BEAD	
L005	DA-5062133008	FERRITE BEAD	
L006	DA-5062133008	FERRITE BEAD	
L007	DA-5062133008	FERRITE BEAD	
L008	DA-5062133008	FERRITE BEAD	
L009	DA-5062133008	FERRITE BEAD	
L010	DA-5062133008	FERRITE BEAD	
L011	DA-5062133008	FERRITE BEAD	
L012	DA-5062133008	FERRITE BEAD	
L013	DA-5062133008	FERRITE BEAD	
L014	DA-5062133008	FERRITE BEAD	
L015	DA-5062133008	FERRITE BEAD	
L016	DA-5062133008	FERRITE BEAD	
L017	DA-5062133008	FERRITE BEAD	
L018	DA-5062133008	FERRITE BEAD	
L019	DA-5062133008	FERRITE BEAD	
L020	DA-5062133008	FERRITE BEAD	
L021	DA-5062133008	FERRITE BEAD	
L022	DA-5062133008	FERRITE BEAD	
L023	DA-5062133008	FERRITE BEAD	
L024	DA-5062133008	FERRITE BEAD	
L025	DA-5062133008	FERRITE BEAD	
L026	DA-5062133008	FERRITE BEAD	
L027	DA-5062133008	FERRITE BEAD	

CAPACITORS			
C001	DA-5240647091	C CAP.	47pF 50V J
C002	DA-5240647091	C CAP.	47pF 50V J
C003	DA-5240647091	C CAP.	47pF 50V J
C004	DA-5240647091	C CAP.	47pF 50V J
C005	DA-5240647091	C CAP.	47pF 50V J
C006	DA-5240647091	C CAP.	47pF 50V J
C007	DA-5240647091	C CAP.	47pF 50V J
C008	DA-5240647091	C CAP.	47pF 50V J
C009	DA-5240647091	C CAP.	47pF 50V J
C010	DA-5240647091	C CAP.	47pF 50V J
C011	DA-5240647091	C CAP.	47pF 50V J
C012	DA-5240647091	C CAP.	47pF 50V J
C013	DA-5240647091	C CAP.	47pF 50V J
C014	DA-5240647091	C CAP.	47pF 50V J
C015	DA-5240647091	C CAP.	47pF 50V J
C016	DA-5240647091	C CAP.	47pF 50V J
C017	DA-5240647091	C CAP.	47pF 50V J
C018	DA-5240647091	C CAP.	47pF 50V J
C019	DA-5240647091	C CAP.	47pF 50V J
C020	DA-5240647091	C CAP.	47pF 50V J
C021	DA-5240647091	C CAP.	47pF 50V J
C022	DA-5240647091	C CAP.	47pF 50V J

△ Symbol	Part No.	Part Name	Description
C023	DA-5240647091	C CAP.	47pF 50V J
C024	DA-5240647091	C CAP.	47pF 50V J
C025	DA-5240647091	C CAP.	47pF 50V J
C026	DA-5240647091	C CAP.	47pF 50V J
C027	DA-5240647091	C CAP.	47pF 50V J

CONNECTORS			
P001	DA-5056406004	60P CONN.	
P002	DA-5056310210	21P MULTI CONN.	
P003	DA-5056310210	21P MULTI CONN.	
P013	DA-5056302066	S-VIDEO	
P014	DA-5056302055	RCA JACK (YELLOW)	
P015	DA-5056302054	RCA JACK (WHITE)	
P016	DA-5056302039	RCA JACK (RED)	

FRONT CONTROL PWB ASSEMBLY

△ Symbol	Part No.	Part Name	Description
RESISTORS			
R602	DA-5142127195	CARBON FILM	270Ω 1/6W J
R603	DA-5142127195	CARBON FILM	270Ω 1/6W J

CONNECTORS			
P602	DA-5056415852	8P CONN.	
P603	DA-5056415484	4P CONN.	
P604	DA-5056415484	4P CONN.	
P605	DA-5056302064	PHONE JACK	

SWITCHES			
S601	DA-5054512951	TACT SPST	
S602	DA-5054512951	TACT SPST	
S603	DA-5054512951	TACT SPST	
S604	DA-5054512951	TACT SPST	
S605	DA-5054512951	TACT SPST	
S606	DA-5054512951	TACT SPST	
S607	DA-5054512951	TACT SPST	

TUNER PWB ASSEMBLY

△ Symbol	Part No.	Part Name	Description
UNIT			
UT01	DA-5000100054	TUNER	FQ1216ME/I H-3

TRANSISTOR			
QT01	DA-6621015332	NPN	2SC1815

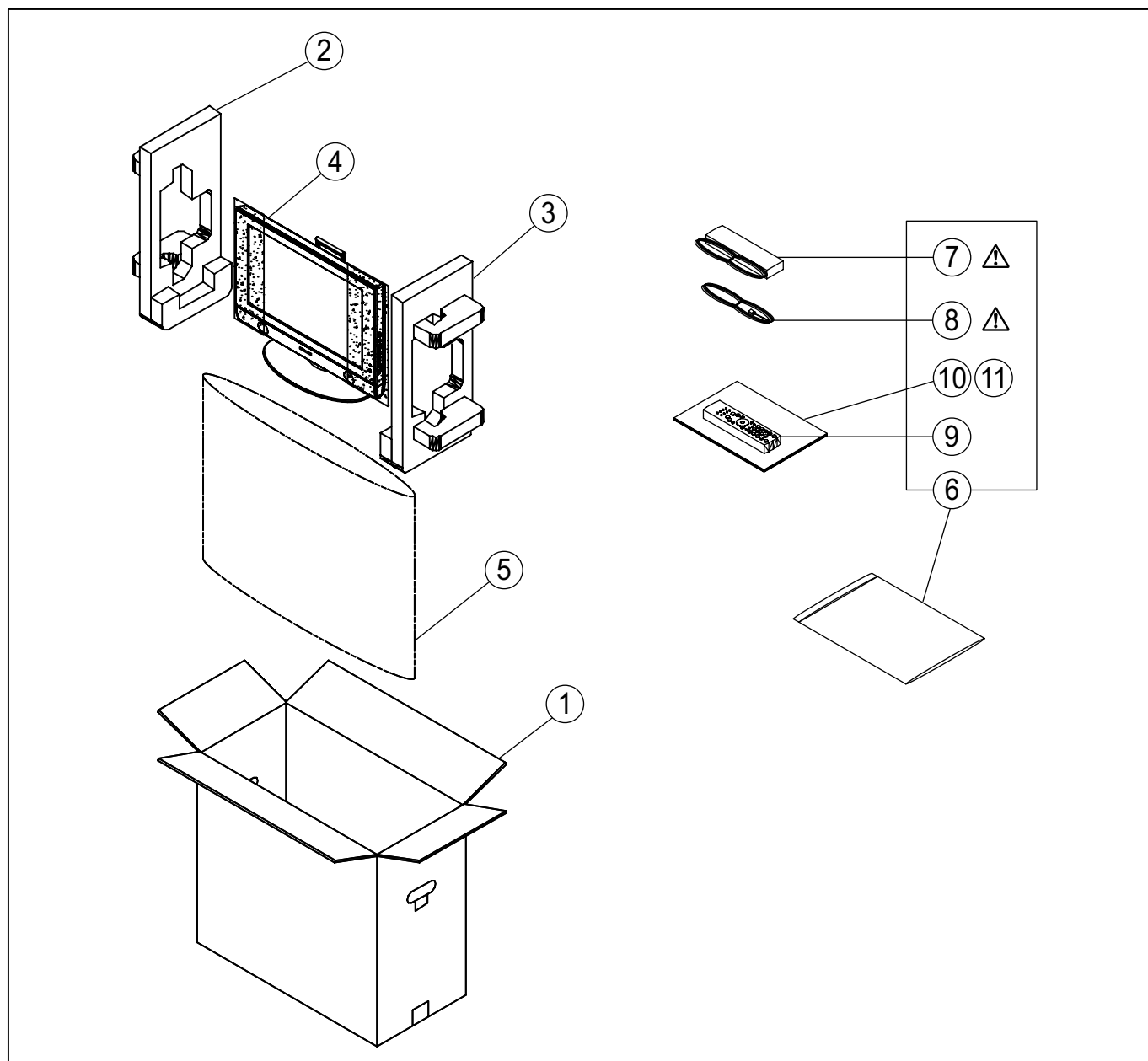
INDUCTORS			
LT01	DA-5064410029	COIL,PEAKING	10μH
LT02	DA-5064410029	COIL,PEAKING	10μH

CAPACITORS			
CT01	DA-5218007991	E CAP.	100μF 16V M
CT02	DA-5230005491	C CAP.	0.1μF 25V Z
CT03	DA-5218007891	E CAP.	10μF 16V M
CT04	DA-5230610291	C CAP.	1000pF 50V K
CT05	DA-5230005491	C CAP.	0.1μF 25V Z
CT06	DA-5240647091	C CAP.	47pF 50V J

RESISTORS			
RT01	DA-5134375009	MG RES.	75Ω 1/16W J
RT02	DA-5134310209	MG RES.	1KΩ 1/16W J
RT05	DA-5134300009	MG RES.	Ω 1/16W J
RT06	DA-5134300009	MG RES.	Ω 1/16W J
RT08	DA-5134300009	MG RES.	Ω 1/16W J
RT09	DA-5134300009	MG RES.	Ω 1/16W J
RT10	DA-5134300009	MG RES.	Ω 1/16W J
RT11	DA-5134300009	MG RES.	Ω 1/16W J
RT12	DA-5134300009	MG RES.	Ω 1/16W J
RT13	DA-5134300009	MG RES.	Ω 1/16W J

CONNECTOR			
P017	DA-5056403004	30P CONN.	

PACKING



PACKING PARTS LIST

△	Ref. No.	Part No.	Part Name	Description
	1	DA-9513390256	CARTON BOX	
	2	DA-9533390156	EPE PAD-L	
	3	DA-9533390256	EPE PAD-R	
	4	DA-9533399956	EPE BAG	for SET
	5	DA-9533310156	PE BAG	for SET
	6	DA-9533251257	PE BAG	for ACCESSORIES
△	7	DA-5061370340	AC ADAPTER	
△	8	DA-5056706170	POWER CORD	BUG/SUG
△	8	DA-5056706169	POWER CORD	BJG/SJG
	9	DA-5000100084	REMOTE CONTROL UNIT	23E31BUG/SUG, 23E75BJG/SJG
	9	DA-5000100085	REMOTE CONTROL UNIT	23E31BJG/SJG
	10	DA-5030057074	INSTRUCTION MANUAL (EN, GE, FR, IT, SP, PO, DU)	
	10	DA-5030057073	INSTRUCTION MANUAL (SW, DA, NO, FI)	
	10	DA-5030057072	INSTRUCTION MANUAL (UK)	
	10	DA-5030057025	INSTRUCTION MANUAL (DIXON)	
	11	DA-5030250021	WARRANTY CARD	



JVC


LT-17E31 BUG

LT-17E31 SUG

LT-23E31 BUG

LT-23E31 SUG

ENGLISH
DEUTSCH
FRANÇAIS
NEDERLANDS
CASTELLANO
ITALIANO
PORTUGUÊS



LCD FLAT TELEVISION

INSTRUCTIONS

LCD-FLACHBILD-FERNSEHER

TELEVISEUR A ECRAN PLAT – LCD

PLATTE LCD-TELEVISIE

TELEVISOR PLANO LCD

TELEVISORE SCHERMO PIATTO LCD

TELEVISÃO DE ECRÃ PLANO DE CRISTAIS LÍQUIDOS

BEDIENUNGSANLEITUNG

MANUEL D'INSTRUCTIONS

GEbruIKSAANWIJZINGEN

MANUAL DE INSTRUCCIONES

ISTRUZIONI

INSTRUÇÕES



InteríArt

Thank you for buying this JVC LCD flat television.

To make sure you understand how to use your new TV, please read this manual thoroughly before you begin.
("LCD" stands for Liquid Crystal Display.)

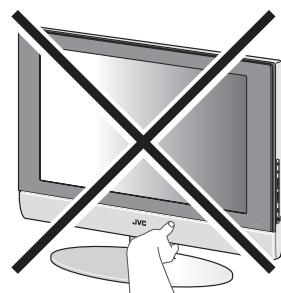
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

WARNING

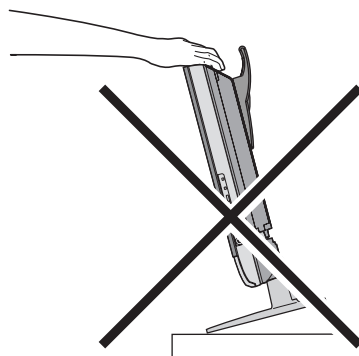
Always use the provided AC adapter and power cord.

WARNING

- Fingers may be trapped under the TV causing injuries. Hold the TV at the bottom in the middle, and do not allow it to tilt up or down.

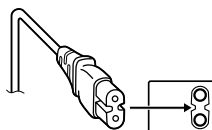


- The TV may fall causing injuries. Hold the bottom of the stand with your hand and tilt the TV up and down.
- Do not allow children to hang from the TV, place their elbows on the TV or lean against the TV. Doing so may cause the TV to fall over and lead to injuries.



CAUTION:

- To avoid electric shock or damage to the unit, first firmly insert the small end of the power cord into the AC Adapter unit it is no longer wobbly, and then plug the larger end of power cord into an AC outlet.



CAUTION:

- Operate **only** from the power source specified (AC 100 – 240 V, 50/60 Hz) on the AC adapter.
- Avoid damaging the AC plug, AC adapter and power cord.
- When you are not using this unit for a long period of time, it is recommended that you disconnect the power cord from the main outlet.

CAUTION ON HEATING OF AC ADAPTER:

- In using, the AC adapter gets heat on the surface of case. It is normal, not defective.
- Don't be covered with any material on case of AC adapter while it is in operation.

NOTES:

- The rating plate (serial number plate) and safety caution are on the back of the main unit.
- The rating information and safety caution of the AC Adapter are on its upper and lower sides.

Point defects

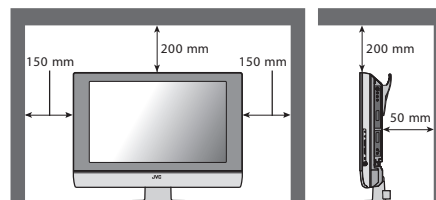
LCDs use collections of fine pixels to display images. While there is no problem with more than 99.99% of these pixels, please understand that a very small number of pixels may not light or may light all the time.

Distance recommendations

Avoid improper installation and never position the unit where good ventilation is impossible.

When installing this TV, distance recommendations must be maintained between the set and the wall, as well as inside a tightly enclosed area or piece of furniture.

Keep to the minimum distance guidelines shown for safe operation.



Failure to take the following precautions may cause damage to the television or remote control.

DO NOT block the TV's ventilation openings or holes.

(If the ventilation openings or holes are blocked by a newspaper or cloth, etc., the heat may not be able to get out.)

DO NOT place anything on top of the TV.

(such as cosmetics or medicines, flower vases, potted plants, cups, etc.)

DO NOT allow objects or liquid into the cabinet openings.

(If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

DO NOT place any naked flame sources, such as lighted candles, on the TV.

DO NOT subject the TV to direct sunlight.

The surface of the TV screen is easily damaged. Be very careful with it when handling the TV.

Should the TV screen become soiled, wipe it with a soft dry cloth. Never rub it forcefully.

Never use any cleaner or detergent on it.

If there is a fault, unplug the unit and call a service technician. Do not attempt to repair it yourself or remove the rear cover and the AC adapter.

Cleaning the screen

The screen is coated with a special thin film to reduce reflection. If this film is damaged, uneven colors, discoloration, scratches, and other problems that can not be repaired may occur. Pay attention to the following when handling the screen.

- Do not use glue or adhesive tape on the screen.
- Do not write on the screen.
- Do not allow the screen to come in contact with any hard objects.
- Do not allow condensation to form on the screen.
- Do not use alcohol, thinner, benzene or other solvents on the screen.
- Do not rub the screen hard.

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Setting up your TV

Installation

Cautions for installation

- Install the TV in a corner on a wall or on the floor so as to keep cords out of the way.
- The TV will generate a slight amount of heat during operation. Ensure that sufficient space is available around the TV to allow satisfactory cooling. See “Distance recommendations” on page 2.

Using the stand

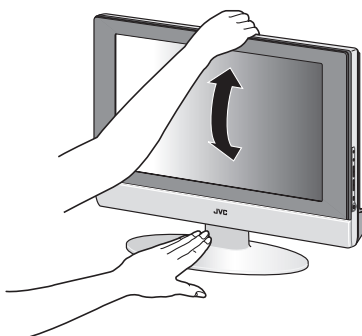
This TV comes with a Table Top Stand already attached.

This stand can be used to adjust the direction of the TV screen 5° up, 10° down, and 20° to the left or right.

Tilt the TV up and down:

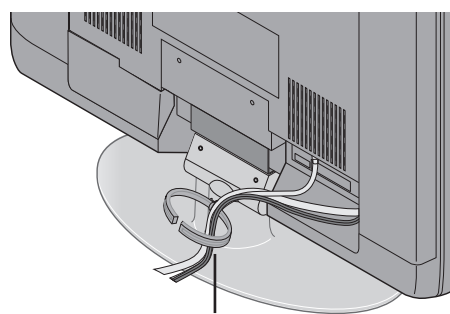
While holding the bottom of the stand with one hand, use your other hand to hold the middle of the top of the TV and slowly tilt the TV up and down.

- As a safety measure, the stand is constructed so that it requires a certain amount of force to tilt the TV.



Cable holder

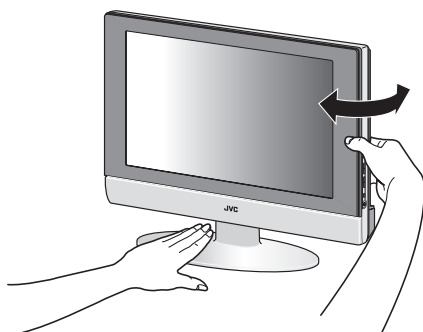
A cable holder which is used to keep the connection cables tidy is attached to the back of the stand.



cable holder

Rotate the TV to the left and right:

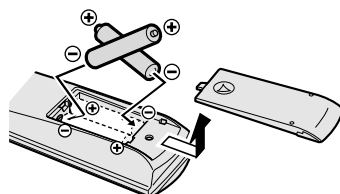
While holding the bottom of the stand with one hand, use your other hand to hold the edge of the panel and slowly adjust the direction of the TV screen.



Putting the batteries into the Remote control

Use two AA/R6 dry cell batteries.

Insert the batteries from the - end, making sure the + and - polarities are correct.



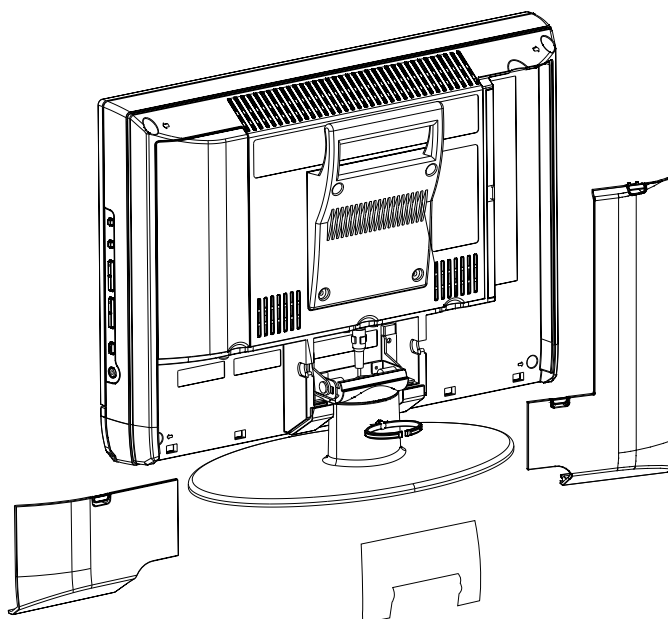
- Follow the warnings printed on the batteries.
- Battery life is about six months to one year, depending on your frequency of use.
- The batteries we supply are only for setting up and testing your TV, please replace them as soon as you need to.
- If the remote control does not work properly, replace the batteries.

Remove the terminal cover

There are connection terminals behind the covers of the rear of the TV. Remove the cover before connecting a DVD or VCR.

The covers can be removed by removing the hook at the top and then pulling out while lifting slightly. To replace the covers, first connect the hook at the bottom of the cover to the TV and then insert the hook at the top.

- Leave the covers off if they do not fit properly. Do not force to replace the covers. Doing so may cause damages of the connection cables and the covers.
- Leave these covers off when mounting the TV on a wall.



- 100mm mount based on VESA regulation is equipped.
- The handle and the stand can be left by loosening the screws with a screwdriver when mounting the TV on a wall.
- Spread a soft cloth on a flat table and then place the TV on the cloth with the screen facing downwards when you leave the handle and the stand.

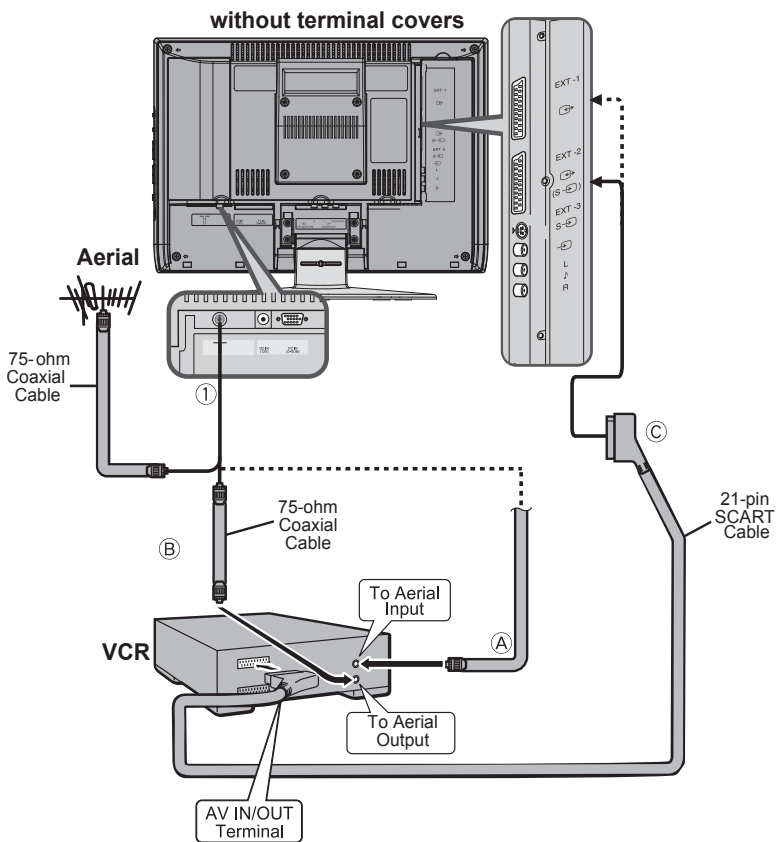
Connecting the aerial and video cassette recorder (VCR)

- The connecting cables are not provided.
- For further details, refer to the manuals provided with the devices to be connected.

If you are connecting a VCR, follow ①→②→③ in the diagram below.

If you are not connecting a VCR, follow ①.

- You can watch a video using the VCR without doing ③. For details, see your VCR instruction manual.
- To connect the PC, please see "Connecting the PC" on page 28.
- To connect more equipment, please see "Connecting external equipment" on page 27.
- To connect additional audio equipment, see "Connecting Speakers/Amplifier" on page 28.



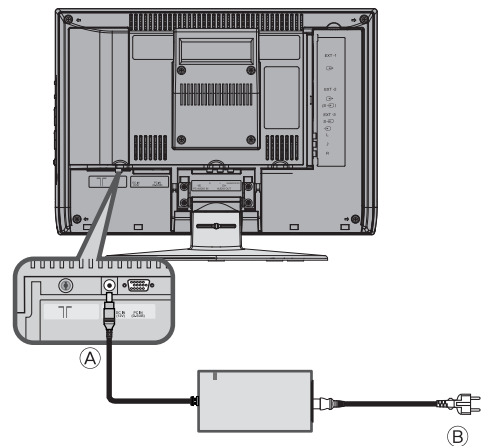
Connecting the power cord to the AC outlet

If you are connecting a AC adapter, follow ①→② in the diagram below.

- Connect ① to the TV and ② to the AC outlet.

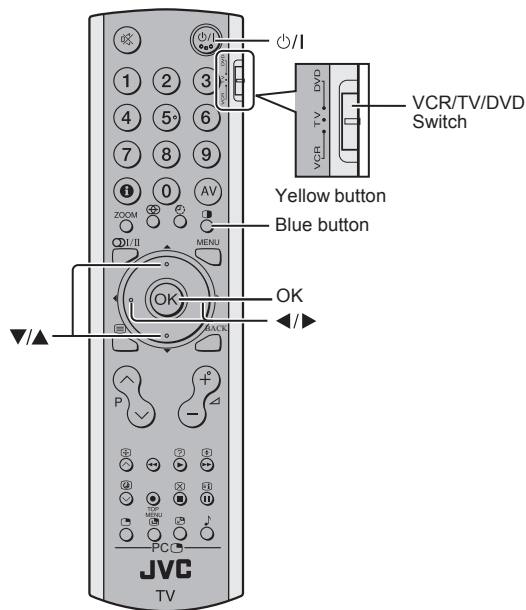
Caution

- Operate only from the power source specified (AC 100 – 240 V, 50/60 Hz) on the unit.
- Remove the AC plug from the outlet to completely disconnect the TV from the power supply.



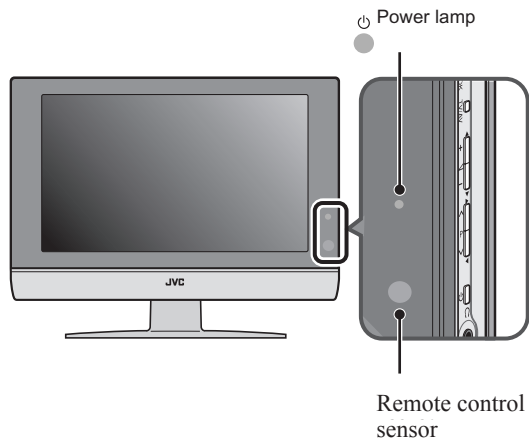
Initial settings

When the TV is first turned on, it enters the initial setting mode. Follow the instructions on the on-screen display to make the initial settings.



- 1 Make sure to set the VCR/TV/DVD switch to the TV position.**
- You cannot turn the TV on when the VCR/TV/DVD switch is set to the VCR or DVD position.

- 2 Press the ϕ /I button on the remote control**
- After a short interval the power lamp changes from red to green.
- Check that the AC plug on the power cord from the TV is connected to AC outlet.



3 AUTO PROGRAM menu appears.

AUTO PROGRAM	
▶ LANGUAGE	ENGLISH
COUNTRY	UK
A.P.S	▶
▼▲ : SELECT	◀▶ : MOVE

4 Press the ▼/▲ buttons to choose the LANGUAGE.

- 5 Press the ◀▶ buttons to choose the ENGLISH.**
- The on-screen display will then be in English.

6 Press the ◀▶ and ▼/▲ buttons to choose the country where you are.

7 Press the ▼/▲ buttons to choose the A.P.S. Then press ◀▶ buttons.

A.P.S.
▶ START ▶
OK : START

8 Press the OK button to start A.P.S.

A.P.S.
A.P.S. IS RUNNING ◀ █ ▶
MENU : EXIT

The AUTO PROGRAM menu appears and received TV channels are automatically stored in the programme numbers.

- To cancel the AUTO PROGRAM function:
Press the MENU button.

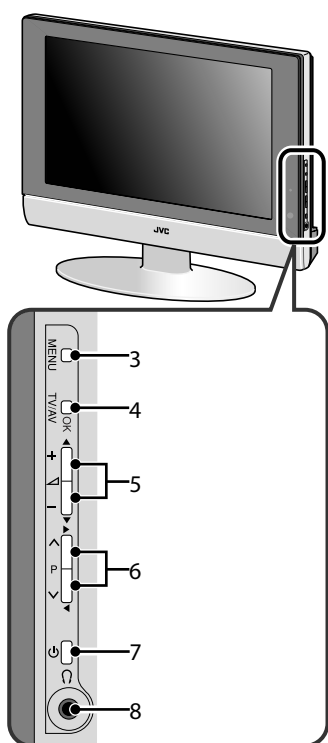
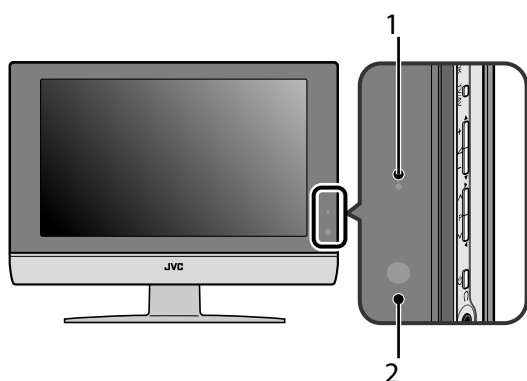
After the TV channels have been registered in the programme numbers, the PROGRAM menu appears

- If you want to, you can now edit the programme numbers using the PROGRAM function.
For details, see “To edit the PROGRAM menu” on page 22.

Now, the initial settings are complete, and you can watch the TV

- If your TV can detect the TV channel name from the TV channel broadcast signal, the TV channel name is assigned to the programme number to which the TV channel has been set. However, which TV channels are set to which programme numbers will depend on the area in which you live.
- If a TV channel you want to view is not set to a programme number, you can set it using the MANUAL function. For details, see "To edit the PROGRAM menu" on page 22.
- The AUTO PROGRAM function does not set the programme number PR 0 (AV) for your video cassette recorder. You will need to set this using the MANUAL function.
- In some areas you may get TV reception from more than one transmitter, for example different ITV regions. In this case each TV channel could be set twice. If this happens, the first set of channels will have the stronger signal. If you want to delete the second set of channels, you will have to do it manually (see page 21).

TV buttons and functions



Turn the TV on from standby mode

Press the button or P V/Δ buttons to turn the TV on from standby mode

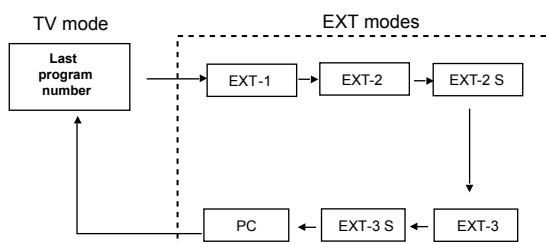
- Check that the AC plug on the power cord from the TV is connected to correctly AC outlet.

Choose a TV channel

Press the P V/Δ buttons to choose a programme number or an EXT terminal

Watch images from external devices

Press the TV/AV button to choose a TV/AV terminal



Adjust the volume

Press the - / + buttons

The volume level indicator appears.

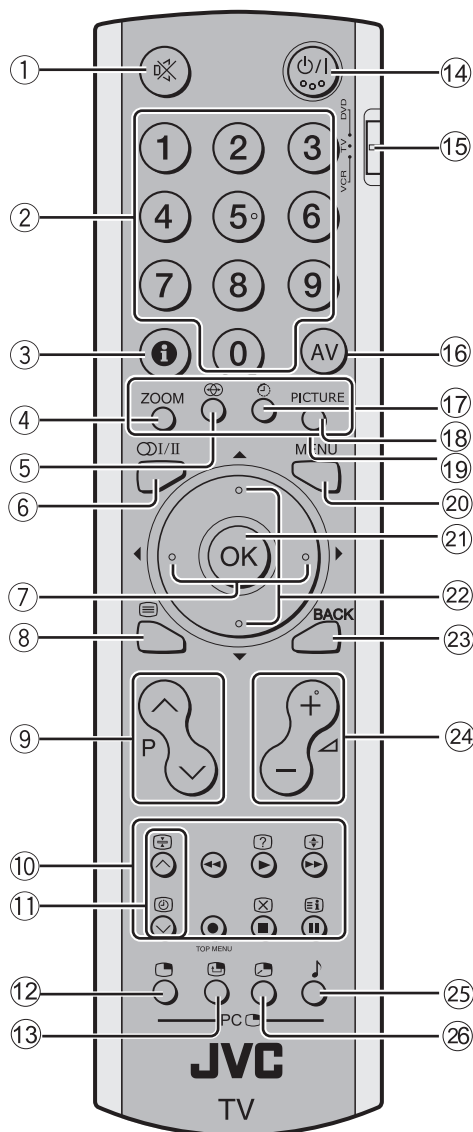
Using the Menu

Use the MENU button.

Refer to “Using the TV’s menu” (see page 17) for details of using the menu.

- 1 Power lamp
- 2 Remote control sensor
- 3 MENU button
- 4 TV/AV OK button
- 5 (Volume) - / + button
- 6 P V/Δ buttons
- 7 Standby button
- 8 Headphone jack (mini jack)

Remote control buttons and functions



- 1 Muting button
- 2 Number buttons
- 3 Information button
- 4 ZOOM button
- 5 button
- 6 button
- 7 buttons
- 8 (Text) button
- 9 P V/∧ buttons
- 10 VCR/DVD/Teletext control buttons
- 11 V/∧ buttons
- 12 button
- 13 button
- 14 Standby button
- 15 VCR/TV/DVD switch
- 16 AV button
- 17 button
- 18 Picture button
- 19 Color buttons
- 20 MENU button
- 21 OK button
- 22 ∇/▲ buttons
- 23 BACK button
- 24 -/+ buttons
- 25 button
- 26 button

Choose a TV channel

Use the number buttons:

Enter the programme number of the channel using the number buttons.

Example:

- PR 6 → press 6
- PR 12 → press 1 and 2

Use the P V/∧ buttons:

Press the P V/∧ buttons to choose the programme number you want.

- If you do not have a clear picture or no colour appears, change the colour system manually. Follow the description "MUNUAL" on page 21 to try to change COLOUR SYSTEM.
- If the SOUND SYSTEM setting for a TV channel is incorrect, it may prevent the sound from being issued. Follow the description "MANUAL" on page 21 to try to change the SOUND SYSTEM setting.

Turn the TV on or off from standby mode

1 Make sure to set the VCR/TV/DVD switch to the TV position.

- You cannot turn the TV on or off when the VCR/TV/DVD switch is set to the VCR or DVD position.

2 Press the ⏻ (standby) button to turn the TV on or off.

When the TV is turned on, the power lamp changes from red to green.

- The power can be turned on by pressing P V/∧ buttons or Number buttons.
- Check that the AC plug on the power cord from the TV is connected to AC outlet.

Adjust the volume

Press the \triangle ∇ buttons to adjust the volume.
The volume indicator appears and the volume changes as you press the \triangle ∇ buttons.

Muting the sound

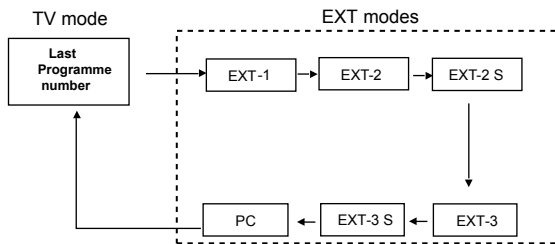
Press the \otimes (muting) button to turn off the sound.

Pressing the \otimes (muting) button again restores the previous volume level.

Watch images from external equipment

Use the AV button:

Press the AV button to choose an EXT terminal.



To use the Programme number 0:

When the TV and VCR are connected only by the Aerial cable, choosing the Programme number 0 allows you to view images from the VCR. Set the VCR RF channel to the Programme number 0 manually. For details, see "MANUAL" on page 21.

In the PC mode:

If following message appears, the power lamp blinks in amber and the TV goes in to reduced power mode.

- "NO SIGNAL"
- "CABLE NO INSERT"
- "OUT OF RANGE"

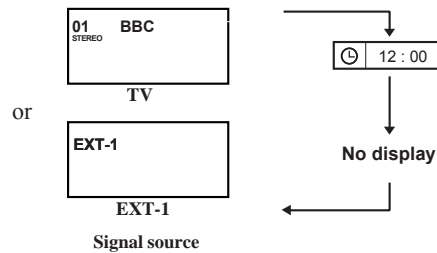
See "Troubleshooting" on page 30 for details of this messages.

Displaying the source information

You can display the source information and current time on the screen.

Press the \textcircled{i} (information) button to display the source information.

Pressing the \textcircled{i} (information) button changes the display as follows:



- The source information and current time switched by \textcircled{i} (information) button.
- The source type :
TV/EXT-1/EXT-2/EXT-2 S/EXT-3/EXT-3 S/PC
- If the programme being watched does not have Teletext transmission, only a box will be displayed at the same location.
- When watching videos, an incorrect current time is sometime displayed.
- In PC mode, the current time will not be displayed

ZOOM function

You can change the screen size according to the picture aspect ratio. Choose the optimum one from the following ZOOM modes.

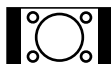
AUTO:

When a WSS (Wide Screen Signalling) signal, which shows the aspect ratio of the picture, is included in the broadcast signal or the signal from an external device, the TV automatically changes the ZOOM mode to 16:9 ZOOM mode or FULL mode according to the WSS signal. If a WSS signal is not included, the picture is displayed in accordance with the ZOOM mode set with the 4:3 AUTO ASPECT function.

- When the AUTO (WSS) mode does not function correctly due to poor WSS signal quality or when you want to change the ZOOM mode, press the ZOOM button and change to another ZOOM mode.

REGULAR:

Use to view a normal picture (4:3 aspect ratio) as this is its original shape.



PANORAMIC:

This stretches the left and right sides of a normal picture (4:3 aspect ratio) to fill the screen, without making the picture appear unnatural.



- The top and bottom of the picture are slightly cut off.

14:9 ZOOM:

This zooms up the wide picture (14:9 aspect ratio) to the upper and lower limits of the screen.



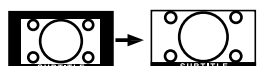
16:9 ZOOM:

This zooms up the wide picture (16:9 aspect ratio) to the full screen.



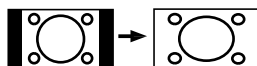
16:9 ZOOM SUBTITLE:

This zooms up the wide picture (16:9 aspect ratio) with subtitles to the full screen.



FULL:

This uniformly stretches the left and right sides of a normal picture (4:3 aspect ratio) to fill the wide TV screen.



- For 16:9 aspect ratio pictures that have been squeezed into a normal picture (4:3 aspect ratio), use the FULL mode to restore the picture to its original shape.

Choose the ZOOM mode

1 Press the ZOOM button to display the ZOOM menu

- The ZOOM button does not work in the twin pictures mode.

Adjusting the visible area of the picture

If subtitles or the top (or bottom) of the picture are cut off, you can adjust the visible area of the picture manually.

1 Press the ZOOM button

The ZOOM menu appears.

2 Press the OK button to display the ZOOM mode indicator

The indicator appears.



3 While it is displayed, press the V/Δ buttons to change the position of the picture

- You cannot adjust the visible area in REGULAR or FULL mode.

Sleep timer function

The Sleep Timer can turn the TV off for you after you fall asleep. Program it to work in intervals of 10 minutes, for a total time of up to 120 minutes.

Press the  button.

Picture mode

You can choose one of four PICTURE MODEs to adjust the picture settings automatically.

Press the **PICTURE** button.

BRIGHT:

Heightens contrast and sharpness.

STANDARD:

Standardizes picture adjustment.

SOFT:

Softens contrast and sharpness.

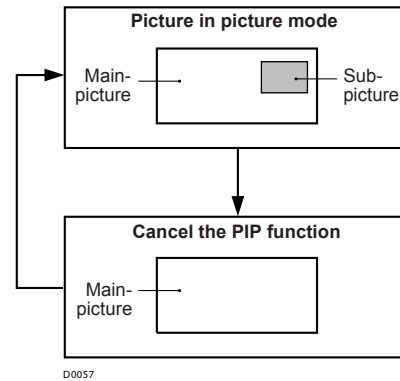
MANUAL:

User define.

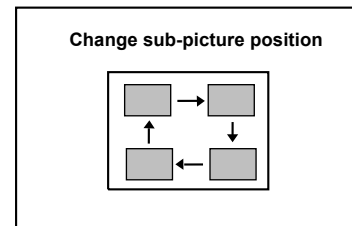
Using the PCPIP function


A PC picture and TV or a video program from an external device can be watched at the same time.

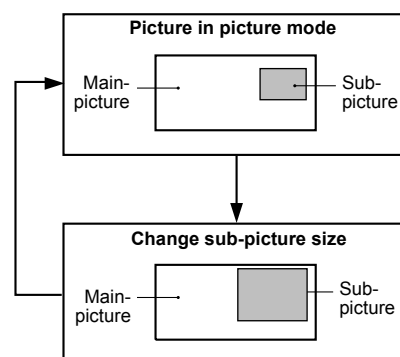
1 Press the  button.



2 Press the  button to change the position of sub-picture



3 Press the  button to change the sub-picture size



4 Press the  button to choose the sound

MAIN : Main picture

SUB : Sub picture


-
- If the main-picture signal is poor, the quality of the sub-picture may also be poor.
 - If the pictures have different standards, the top and bottom of one of them may be missing.
-
- If you press the menu button when the PIP functions is on, PC menu will appear. To display the TV menu, change the mode to the TV mode.
-

Operating a JVC brand VCR or DVD player


These buttons will operate a JVC brand VCR or DVD player. Pressing a button that looks the same as the device's original remote control button has the same effect as the original remote control.

1 Set the VCR/TV/DVD switch to the VCR or DVD position



VCR:

When you are using a VCR, set the switch to the VCR position. You can turn the VCR on or off with the /I (Standby) button.

DVD:

When you are using a DVD player, set the switch to the DVD position. You can turn the DVD player on or off with the /I (Standby) button.

2 Press the VCR/DVD Control Button to control your VCR or DVD player

- If your device is not made by JVC, these buttons will not work.
- Even if your device is made by JVC, some of these buttons may not work, depending on the device you are using.
- You can use the /▲ buttons to choose a TV channel the VCR will receive, or choose the chapter the DVD player plays back.
- Some models of DVD player use the /▲ buttons for both operating the fast forward/backward functions and for choosing the chapter.
- Set the VCR/TV/DVD switch to the TV position when you turn the TV on or off.

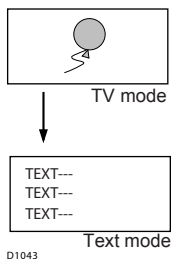
Teletext function

Basic operation

- 1 Choose a TV channel with a teletext broadcast
- 2 Make sure to set the VCR/TV/DVD switch to the TV position.



- 3 Press **[Text]** button to display the teletext
- Pressing **[Text]** button changes the mode as follows:



- 4 Choose a teletext page by pressing the **P** ∇/\wedge buttons, number buttons or colour buttons

To return to the TV mode:

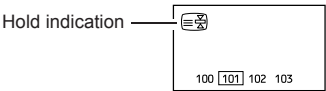
Press the **[Text]** button.

- If you have trouble receiving teletext broadcasts, consult your local dealer or the teletext station.
- The ZOOM function will not work in the TV and text mode or Text mode.
- You cannot operate menus when viewing a teletext programme.
- Language display depends on the country which was set on the COUNTRY menu. If characters on a Teletext programme do not appear properly, change the COUNTRY Setting to other country's.

Hold

You can hold a teletext page on the screen for as long as you want, even while several other teletext pages are being received.

Press the **[Hold]** button



To cancel the Hold function:

Press **[Hold]** button again.

ENGLISH

Sub-page

Some teletext pages include sub-pages that are automatically displayed.

1 Choose a teletext page that includes sub-pages

Press the **Ⓢ** button, Sub-page numbers can be viewed and displayed at the screen.

2 Press the number buttons to choose a sub-page number

Sxxxx : xxxx is the number 0 ~ 9 that you entered.

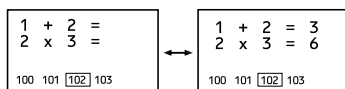
For example, sub-page 1 is S0001, you must enter 0,0,0 and 1 serially to view sub-page S0001.

Reveal

Some teletext pages include hidden text (such as the answers to a quiz).

You can display the hidden text.

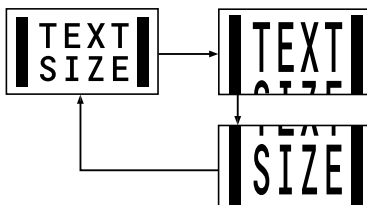
Each time you press the **Ⓡ (Reveal) button, text is hidden or revealed**



Size

You can double the height of the teletext display.

Press the **Ⓢ (Size) button.**



Index

You can return to the index page instantly.

Press the **Ⓢ (Index) button**

Returns to page 100 or a previously specified page.

Cancel

You can search for a teletext page while watching TV.

1 Press the number button to enter a page number, or press a colour button

The TV searches for a teletext page.

2 Press the **Ⓢ** (Cancel) button

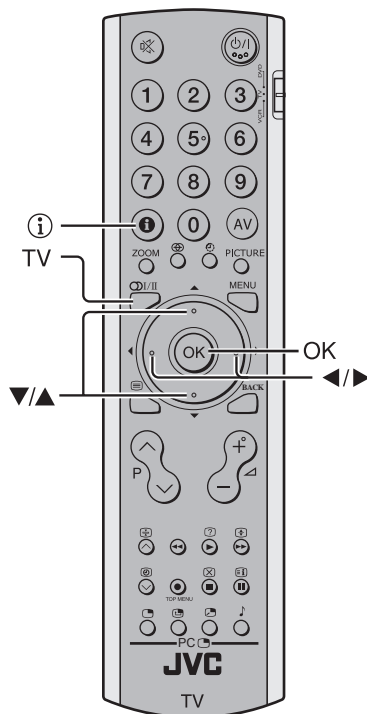
The TV programme appears. When the TV finds the teletext page, its page number appears in the upper left of the screen.

3 Press the **Ⓢ** (Cancel) button to return to a teletext page when the page number is on the screen

- The TV mode cannot be resumed by pressing the **Ⓢ** (Cancel) button. To return to the TV mode press **Ⓢ** button.

Using the TV's menu

This TV has a number of functions you can operate using menus. To use all your TV's functions, you need to understand the basic menu operating techniques fully.



3 Press the ▼/▲ buttons to choose a function

- For details of the functions in the menus, see the following pages.

4 Press the ◀/▶ buttons to choose the setting of that function

- If you want to operate a function which appears only with its name, follow the descriptions of that function on the following pages.
- The display appearing at the bottom of a menu shows you a button on the remote control that you can use when you operate a chosen function.

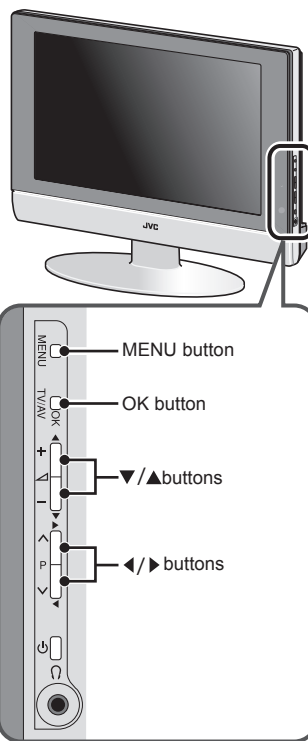
5 Press the MENU button to complete the setting

The menu disappears.

- When watching the television with the NTSC system, the menus are displayed at about half of their normal vertical size.
- The menu will disappear if you press the P/V/Δ buttons, the AV button or the number buttons while the menu is displayed.

Operation with the buttons on the TV

You can also operate the menus using the buttons on the front panel of the TV.



Basic operation

1 Press the MENU button to display the MENU (main menu)

MENU		
▶ PICTURE	▶	
SOUND	▶▶	
FEATURES	▶▶▶	
INSTALL	▶▶▶▶	
▼▲ : SELECT ◀▶ : MOVE		

2 Press the ◀/▶ and ▼/▲ buttons to choose a menu title, and press the OK button

The menu appears.

To return to the previous menu:

Press the BACK button on the remote control or the MENU button on the TV.

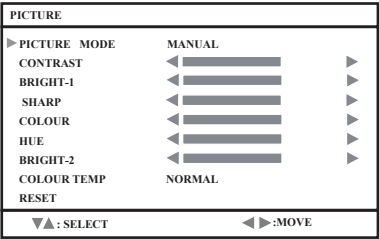
To exit a menu instantly:

Press the MENU button on the remote control or press the MENU button on the TV several times.

The menu will disappear after about one minute if no operation is performed.

PICTURE SETTING

Refer to “Using the TV’s menu” (see page 17) for details of displaying the menu.



PICTURE MODE

You can choose one of four PICTURE MODEs to adjust the picture settings automatically.

- BRIGHT:**
Heightens contrast and sharpness.
- STANDARD:**
Standardizes picture adjustment.
- SOFT:**
Softens contrast and sharpness.
- MANUAL:**
User define.

Picture Adjustment

You can change the picture settings of each PICTURE MODE mode as you like.

- CONTRAST:**
You can adjust the picture contrast.
 - ◀ : lower
 - ▶ : higher
- BRIGHT-1:**
You can adjust the picture brightness.
 - ◀ : darker
 - ▶ : brighter
- SHARP:**
You can adjust the picture sharpness.
 - ◀ : softer
 - ▶ : sharper
- COLOUR:**
You can adjust the picture colour.
 - ◀ : lighter
 - ▶ : deeper
- HUE:**
You can adjust the picture tint.
 - ◀ : reddish
 - ▶ : greenish
- BRIGHT-2:**
You can adjust the back light.
 - ◀ : darker
 - ▶ : lighter

You can change the HUE setting(picture hue) when the colour system is NTSC3.58 or NTSC4.43.

COLOUR TEMP.

You can select one of three COLOUR TEMP. modes (three tones of white) to adjust the white balance of the picture. Since white is the colour which is used as a reference for all the other colours, changing the COLOUR TEMP. mode affects the appearance of all the other colours on the screen.

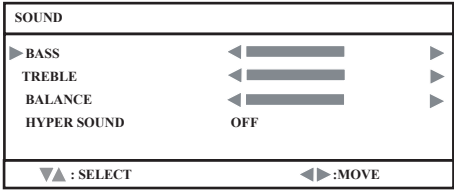
- COOL:**
A bluish white. Using this mode when watching bright pictures allows you to enjoy a more vivid and bright picture.
- NORMAL:**
The normal white colour.
- WARM:**
A reddish white. Using this mode when watching films allows you to enjoy colours that are characteristic of films.

RESET

You can reset the picture settings you have chosen to the default settings.

SOUND SETTING

Refer to “Using the TV’s menu” (see page 17) for details of displaying the menu.



HYPER SOUND

You can enjoy Surround sound with a “live” effect by using the HYPER SOUND function.

- ON:**
HYPER SOUND function is turned on.
- OFF:**
HYPER SOUND function is turned off.

Sound Adjustment

You can adjust the sound to your liking.

- BASS:**
You can adjust the low tone of the sound.
- ◀ : weaker
 - ▶ : strong

- TREBLE:**
You can adjust the high tone of the sound.
- ◀ : weaker
 - ▶ : strong

- BALANCE:**
You can adjust the volume balance between the left and right speaker.
- ◀ : turn the left speaker’s volume level up.
 - ▶ : turn the right speaker’s volume level up.

FEATURES

Refer to “Using the TV’s menu” (see page 17) for details of displaying the menu.

FEATURES	
► BLUE BACK	OFF
CHILD LOCK	OFF
EXT-2 OUTPUT	TV
▼▲ : SELECT	◀▶ : MOVE

BLUE BACK

You can set the TV to automatically change to a blue screen and mute the sound if the signal is weak or absent, or when there is no input from an external device.

- ON:**
This function is turned on.
- OFF:**
This function is turned off.

CHILD LOCK

When the CHILD LOCK mode is on, the TV buttons will be locked except Power ON/OFF. TV only can be controled by remote controller.

EXT-2 OUTPUT

You can choose a signal source to be output from the EXT-2 terminal.

You can do this with the output signals of the devices connected to EXT-1 terminal, or with the picture and sound from a TV channel you are currently viewing.

- Press the ◀/▶ buttons to choose the signal source TV/EXT-1.**
- EXT-3 terminal can not be output.

INSTALL

Refer to “Using the TV’s menu” (see page 17) for details of displaying the menu.

In TV mode :

INSTALL		
▶ MANUAL	▶	
PROGRAM	▶	
▼▲ : SELECT	OK : MOVE	

In EXT mode :

INSTALL		
▶ COLOUR SYSTEM	AUTO	
▼▲ : SELECT	◀▶ : MOVE	

MANUAL

You can store the TV channel for which you needed. Store them in the TV’s program numbers list by setting the following.

MANUAL		
▶ PROGRAM	01	
BAND	CH	
CHANNEL	02	
COLOUR SYSTEM	AUTO	
SOUND SYSTEM	AUTO	
SEARCH	◀	▶
FINE TUNING	◀	▶
STORE		
▼▲ : SELECT	◀▶ : MOVE	

1 Select PROGRAM and press the ◀/▶ buttons to choose the program number.

2 Select BAND and press the ◀/▶ buttons to choose the band type.
CH(AIR) / CC(CATV)

3 Select CHANNEL and press the ◀/▶ buttons to choose the channel number.

4 Select COLOUR SYSTEM and press the ◀/▶ buttons to choose the colour system.
AUTO / PAL / SECAM

- If you do not have a clear picture or no colour appears, change the colour system.

5 Select SOUND SYSTEM and press the ◀/▶ buttons to choose the sound system.
AUTO / B/G / D/K / L / I

- If the SOUND SYSTEM setting for a TV channel is incorrect, it may prevent the sound from being issued.

6 Select SEARCH and press the ◀/▶ buttons to choose the serviceable TV channel.

7 If the channel reception is poor, select FINE TUNING and press the ◀/▶ buttons to fine tune the program.

8 Select Store and press the ◀/▶ buttons to store the manual setting.

PROGRAM

AUTO PROGRAM

You can automatically store the TV channels for which you have the best reception. Store them in the TV’s program numbers list by doing the following.

1 Choose PROGRAM. Then press the OK button.

PROGRAM		
01 ---	11 ---	21 ---
02 ---	12 ---	22 ---
03 ---	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
■ NAME	■ DELETE	
■ INSERT	■ A.P.S.	

2 Press the blue button, AUTO PROGRAM menu appears.

AUTO PROGRAM	
▶ LANGUAGE	ENGLISH
COUNTRY	UK
A. P. S.	▶
▼▲ : SELECT	◀▶ : MOVE

3 Press the ▼/▲ buttons to choose the LANGUAGE.

4 Press the ◀/▶ buttons to choose the ENGLISH.
The on-screen display will then be in English.

5 Press the ▼/▲ and ◀/▶ buttons to choose the country where you are.

6 Press the ▼/▲ buttons to choose the A.P.S. Then press the ◀/▶ buttons.

A.P.S.	
▶ START	▶
OK : START	

7 Press the OK button to start the A.P.S.

A.P.S.	
A.P.S. IS RUNNING	
◀	
▶	
MENU : EXIT	

The AUTO PROGRAM menu appears and received TV channels are automatically stored in the programme numbers.

- To cancel the AUTO PROGRAM function: Press the MENU button.

After the TV channels have been registered in the programme numbers, the PROGRAM menu appears

- If you want to, you can now edit the program numbers using the PROGRAM function.
For details, see "To edit the PROGRAM menu" on page 22.

To edit the PROGRAM menu

You can edit the programme numbers.

Caution

- Using the NAME, DELETE or INSERT functions rewrites the current programme numbers list. Therefore, the programme number of some of the TV channels will change.

1 Choose PROGRAM, then press the OK button

PROGRAM		
01 ---	11 ---	21 ---
02 ---	12 ---	22 ---
03 ---	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
<div> <div>NAME</div> <div>DELETE</div> <div>INSERT</div> <div>A.P.S.</div> </div>		

2 Follow the operation description of a function you want to use and operate the function

NAME:

This function registers a channel name (ID) to a TV channel.

INSERT:

This function changes a programme number of a TV channel.

DELETE:

This function deletes a TV channel you do not want to list.

A.P.S:

This function received TV channels automatically and stored in program numbers. For details, see "AUTO PROGRAM" on page 21.

NAME

1 Press the ◀/▶ and ▼/▲ buttons to choose a TV channel

Every time you press the ◀/▶ and ▼/▲ buttons, the programme number changes and the picture of the TV channel stored in the programme number appears on the screen.

2 Press the red button to start the NAME function

PROGRAM		
01 ---	11 ---	21 ---
02 ---	12 ---	22 ---
03 ---	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
<div> <div>STORE</div> <div>CANCEL</div> </div>		

3 Press the ◀/▶ and ▼/▲ buttons to edit the channel name you want to give the TV channel

PROGRAM		
01 ---	11 ---	21 ---
02 BBC1	12 ---	22 ---
03 ---	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
<div> <div>STORE</div> <div>CANCEL</div> </div>		

4 Press the red button to store the setting

PROGRAM		
01 ---	11 ---	21 ---
02 BBC1	12 ---	22 ---
03 ---	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
<div> <div>NAME</div> <div>DELETE</div> <div>INSERT</div> <div>A.P.S.</div> </div>		

To return to the INSTALL menu:

Press the BACK button.

To exit a menu instantly:

Press the MENU button.

INSERT

1 Press the ◀/▶ and ▼/▲ buttons to choose a program number for which you want

Every time you press the ◀/▶ and ▼/▲ buttons, the programme number changes and the picture of the TV channel stored in the programme number appears on the screen.

PROGRAM		
01 ---	11 ---	21 ---
02 BBC1	12 ---	22 ---
03 BBC2	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
<div> <div>■ NAME</div> <div>■ DELETE</div> <div>■ INSERT</div> <div>■ A.P.S.</div> </div>		

2 Press the green button to start the INSERT function

PROGRAM		
01 ---	11 ---	21 ---
02 BBC1	12 ---	22 ---
03 BBC2	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
<div> <div>■</div> <div>■</div> <div>■ INSERT</div> <div>■ CANCEL</div> </div>		

3 Press the ◀/▶ and ▼/▲ buttons to choose a new program number

PROGRAM		
01 ---	11 ---	21 ---
02 BBC1	12 ---	22 ---
03 BBC2	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
<div> <div>■</div> <div>■</div> <div>■ INSERT</div> <div>■ CANCEL</div> </div>		

4 Press the green button to insert the channel into the new program number

PROGRAM		
01 ---	11 ---	21 ---
02 ---	12 ---	22 ---
03 BBC2	13 ---	23 ---
04 BBC1	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
<div> <div>■ NAME</div> <div>■ DELETE</div> <div>■ INSERT</div> <div>■ A.P.S.</div> </div>		

To return to the INSTALL menu:

Press the BACK button.

To exit a menu instantly:

Press the MENU button.

DELETE

1 Press the ◀/▶ and ▼/▲ buttons to choose a program number for which you want

Every time you press the ◀/▶ and ▼/▲ buttons, the programme number changes and the picture of the TV channel stored in the programme number appears on the screen.

PROGRAM		
01 ---	11 ---	21 ---
02 BBC1	12 ---	22 ---
03 BBC2	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
■ NAME	■ DELETE	
■ INSERT	■ A.P.S.	

2 Press the yellow button to start DELETE function

PROGRAM		
01 ---	11 ---	21 ---
02 BBC1	12 ---	22 ---
03 BBC2	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
■	■ DELETE	
■	■ CANCEL	

3 Press the yellow button to delete the selected TV channel

The TV channel is deleted from the programme numbers list.

PROGRAM		
01 ---	11 ---	21 ---
02 BBC1	12 ---	22 ---
03 ---	13 ---	23 ---
04 ---	14 ---	24 ---
05 ---	15 ---	25 ---
06 ---	16 ---	26 ---
07 ---	17 ---	27 ---
08 ---	18 ---	28 ---
09 ---	19 ---	29 ---
10 ---	20 ---	30 ---
■ NAME	■ DELETE	
■ INSERT	■ A.P.S.	

To return to the INSTALL menu:
Press the BACK button.

To exit a menu instantly:
Press the MENU button.

COLOUR SYSTEM in EXT mode

Press the ◀/▶ buttons to choose the colour system

When you are in EXT mode, you can only change the colour system in the INSTALL menu.

PC MENU (In PC mode only)

This TV also has a number of functions on PC mode, you can operate using pc menus.

PC MENU	
▶ PC PICTURE POSITION ▶	
PC PICTURE ▶	
SOUND ▶	
▼▲ : SELECT	OK : OK
1024 X 768	
H : 48 kHz	V : 60 Hz

PC PICTURE POSITION

You can adjust the picture settings as following functions.

PC PICTURE POSITION	
▶ AUTO SETUP ▶	
H POSITION ◀ [bar] ▶	
V POSITION ◀ [bar] ▶	
CLOCK ◀ [bar] ▶	
PHASE ◀ [bar] ▶	
RESET ▶	
▼▲ : SELECT	◀▶ :MOVE

AUTO SETUP:

You can adjust picture settings automatically for optimized picture position, clock and phase.

H POSITION:

You can adjust picture horizontal position.

- ◀ : left
- ▶ : right

V POSITION:

You can adjust picture vertical position.

- ◀ : down
- ▶ : up

CLOCK:

You can adjust CLOCK to fine tune picture.

PHASE:

You can adjust PHASE to fine tune picture.

RESET:

You can select RESET mode for default setting.

PC PICTURE

You can change the picture settings of each PICTURE MODE mode as you like.

PC PICTURE	
▶ CONTRAST ▶	
BRIGHT-2 ◀ [bar] ▶	
COLOUR TEMP. ◀ [bar] ▶	
R ◀ [bar] ▶	MANUAL
G ◀ [bar] ▶	
B ◀ [bar] ▶	
RESET ▶	
▼▲ : SELECT	◀▶ :MOVE

CONTRAST:

You can adjust the picture contrast.

- ◀ : lower
- ▶ : higher

BRIGHT-2:

You can adjust the back light.

- ◀ : darker
- ▶ : lighter

COLOUR TEMP.:

You can adjust the picture colour mode.

COOL:

A bluish white. Using this mode when watching bright pictures allows you to enjoy a more vivid and bright picture.

NORMAL:

The normal white colour.

WARM:

A reddish white. Using this mode when watching films allows you to enjoy colours that are characteristic of films.

MANUAL:

User defined.

R:

You can adjust the Red color component.

- ◀ : reddish
- ▶ : redder

G:

You can adjust the Green color component

- ◀ : greenish
- ▶ : greener

B:

You can adjust the Blue color component.

- ◀ : blueish
- ▶ : bluer

RESET:

You can select RESET mode for default setting.

SOUND

You can adjust the sound to your liking.

SOUND	
▶ BASS ◀ [bar] ▶	
TREBLE ◀ [bar] ▶	
BALANCE ◀ [bar] ▶	
HYPER SOUND	OFF
▼▲ : SELECT	◀▶ :MOVE

BASS:

You can adjust the low tone of the sound.

- ◀ : weaker
- ▶ : strong

TREBLE:

You can adjust the high tone of the sound.

- ◀ : weaker
- ▶ : strong

BALANCE:

You can adjust the volume balance between the left and right speaker.

- ◀ : turn the left speaker's volume level up.
- ▶ : turn the right speaker's volume level up.

HYPER SUOUND:

You can enjoy Surround sound with a "live" effect by using the HYPER SOUND functions.

ON: HYPER SOUND function is turned on.

OFF: HYPER SOUND function is turned off.

PC support mode list

Mode NO.	Mode Name Resolution	H Freq. (kHz) V Freq. (Hz)
1	VGA 60 Hz 640x480	31.469 59.941
2	SVGA 56 Hz 800x600	35.16 56.25
3	SVGA 60 Hz 800x600	37.879 60.317
4	XGA 60 Hz 1024x768	48.363 60.004
5	WXGA 1280x768	47.73 60

The resolution and the frequencies which are displayed on the screen may not exactly same as this list.

The Auto SETUP functions will work automatically when you change the resolution of PC mode. The picture position, clock, and phase will be optimized.

Connecting external equipment

Before connecting anything:

- 1 VCR (composite signal)
- 2 VCR (composite signal/S-VIDEO signal)
- 3 T-V LINK compatible VCR (composite signal/S-VIDEO signal)
- 4 Decoder
- 5 DVD player (composite signal/S-VIDEO signal)
- 6 DVD player (composite signal/RGB signal)
- 7 PC
- 8 TV game (composite signal/RGB signal)
- 9 TV game (composite signal/S-VIDEO signal)
- 10 Headphones
- 11 Camcorder (composite signal/S-VIDEO signal)
- 12 SCART cable
- 13 PC Audio in
- 14 Video cable
- 15 S-VIDEO cable
- 16 D-SUB in



Equipment which can output the S-VIDEO signal (Y/C signal) such as an S-VHS VCR

Connect the equipment to an EXT terminal (but not the EXT-1 terminal).

You can choose between an S-VIDEO signal (Y/C signal).

Connecting headphones

Connect the headphones with a stereo mini-jack (3.5 mm diameter) to the headphone socket at the TV.

Video or sound signal output from the EXT-2 terminal

You can change over the output of the video/sound signal from the EXT-2 terminal. This is useful when you want to dub the video/sound from another device onto the VCR connected to the EXT-2 terminal.

TV output from the EXT-1 terminal

The video/sound signal of a TV channel you are viewing is always output from the EXT-1 terminal.

- Changing over a programme number also changes over the TV output from the EXT-1 terminal.
- The video/sound signal from an EXT terminal cannot be output.
- Teletext programmes cannot be output.

Connecting the PC

Connect the PC with the D-SUB cable to the D-SUB in at the TV, and connect the sound device of PC with a stereo mini-jack to PC AUDIO IN.

You can adjust the picture by AUTO SETUP function when the PC signal is output correctly, the AUTO SETUP function can optimize the picture position, clock and phase. You can have a fine vision after AUTO SETUP function executed.

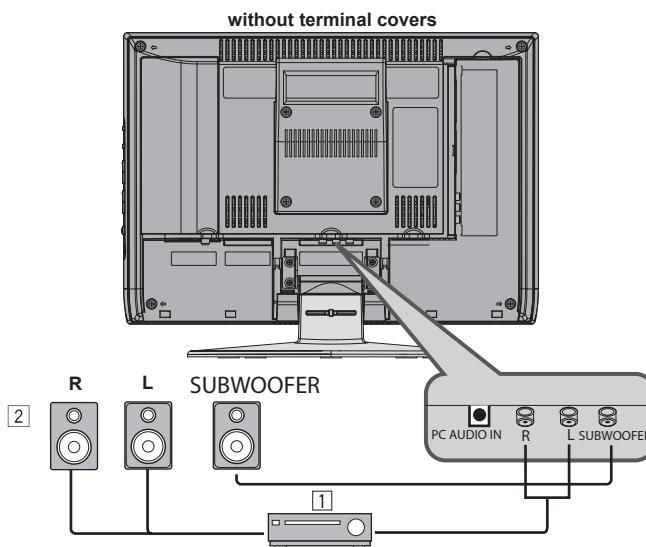
Connecting Speakers/Amplifier

See the Audio equipment connection diagram, then connect the audio equipment you desire to the TV.

You can use external front speakers to listen to the TV sound instead of the TV speakers.

Before connecting anything:

- Read the manuals provided with the amplifier and speakers.
- Turn the TV and amplifier off.
- To prevent magnetism from the speakers adversely affecting the TV screen, use magnetically-shielded speakers for the front speakers.
- Note that connecting cables are not supplied.



- 1 Amplifier
- 2 External speakers (Magnetic-shielded type)

- The output from the AUDIO OUT terminal is not interrupted by headphone connection to the TV. You cannot cut the sound from the front speaker even if you connect a headphone to the TV.
- Adjust the volume of the external speakers with the amplifier.
- Connect the subwoofer which carried an amplifier.
- The subwoofer is interlocked with the TV volume.
- You can not connect an amplifier and a Subwoofer at the same time.

Troubleshooting

If a problem arises while you are using the TV, please read this troubleshooting guide carefully before you ask to have the TV repaired. You may be able to fix it easily by yourself. For example, if the mains plug is disconnected from the mains outlet, or the TV aerial has problems, you may think there is a problem with the TV itself.

Important:

- This troubleshooting guide only covers problems whose causes are not easy to decide. If you have a question when you are operating a function, read the page(s) for that function carefully, not this troubleshooting guide.
- If you follow the advice in this troubleshooting guide without any success, unplug the mains plug and ask for your TV to be repaired. Do not attempt to repair the TV by yourself or to remove the rear cover of the TV.

If you cannot turn on the TV

- Are the AC plug on the power cord from the TV is connected to AC outlet?
- Make sure to set the VCR/TV/DVD switch to the TV position. You cannot turn the TV on when the VCR/TV/DVD switch is set to the VCR or DVD position.

If you cannot turn off the TV

- Make sure to set the VCR/TV/DVD switch to the TV position. You cannot turn the TV off when the VCR/TV/DVD switch is set to the VCR or DVD position.

No picture or no sound

- Have you chosen a TV channel with very poor reception? If so, the BLUE BACK function will be activated: the entire screen becomes blue, and the sound is muted. If you still want to view the TV channel, follow the description "FEATURES" on page 20 to change the BLUE BACK function setting to OFF.
- If the SOUND SYSTEM setting for a tTV channel is incorrect, it may prevent the sound from being issued. Follow the description "INSTALL" on page 21 to use the MANUAL function to try to change the SOUND SYSTEM setting.


Poor picture

- If noise (snow) totally blocks out the picture, there may be a problem with the aerial or aerial cable. Check the following to try to solve the problem:
 - Have the TV and aerial been connected properly?
 - Has the aerial cable been damaged?
 - Is the aerial pointing in the right direction?
 - Is the aerial itself faulty?
- If the TV or aerial suffers interference from other equipment, stripes or noise may appear in the picture. Move any equipment such as an amplifier, personal computer, or a hair drier, that can cause interference away from your TV. Or try moving the TV. If the aerial suffers interference from a radio tower or high-voltage wire, please contact your local dealer.
- If the TV suffers interference from signals reflecting from mountains or buildings, double-pictures (ghosting) will occur. Try to change the aerial's direction or replace it with one with better directionality.
- Have the COLOUR and BRIGHT settings been adjusted properly? Follow the description "Picture Adjustment" on page 18 to try to adjust them properly.
- Videotaping teletext is not recommended because it may not record correctly.
- When viewing images from commercially available video software products, or videos from videotapes which have been recorded improperly, the top of the image may be distorted. This is due to the condition of the video signal. There is nothing wrong with the TV.



Poor sound

- Have you adjusted BASS or TREBLE properly? If not, follow the description "Sound Adjustment" on page 19.

If the TV does not respond to the remote control

- Have the batteries of the remote control worn out? Follow the description "Putting the batteries into the Remote control" on page 5 and replace them with new batteries.
- Have you attempted to use the remote control from the sides or rear of the TV or from more than seven metres away from the TV? Use the remote control in the front of your TV or from less than seven metres away.
- When you are viewing a teletext programme, you cannot operate the menus. Press the  button to return to the ordinary TV programme, and then try operating the menus.
- If the TV suddenly stops responding, disconnect the power cord of the TV from the AC outlet. Connect them to the AC outlet again to turn on the TV. If the TV returns to a normal state, it is not a failure.

Other concerns

- When the SLEEP TIMER function operates, the TV is automatically turned off. If the TV suddenly turns off, try to press the  (standby) button to turn on the TV once again. If the TV goes back to normal, there is no problem.
- When the TV is receiving a wide-screen signal (WSS) or a signal from an external device affecting the screen size, the ZOOM mode automatically changes. When you want to resume the previous ZOOM mode, press the **ZOOM** button again.
- It takes a short period of time from the time an operation such as changing channels is performed until an image is displayed. This is not a malfunction. This is the time required for the image to stabilize before it can be displayed.
- The TV may make a crackling sound due to a sudden change in temperature. The picture or sound may be normal. If you hear crackling sounds frequently while you are viewing the TV, there may be other causes. As a precaution, ask your service technician to inspect it.
- In the twin pictures mode the sub-picture may disappear when the external device is operated. If this happens, press the  button and display the sub-picture again.
- The top of the TV and the screen may become hot during use but this has no affect on the performance of the TV. Ensure that the ventilation holes are not blocked.
- When the picture is unstable, the screen may become white for a moment. This occurs when the signal which drives the liquid crystal is missing. This is not a malfunction.
- When a still image has been displayed for a long period, a faint residual image may remain on the screen for a short time after the power has been turned off or when another image is displayed. This is not a malfunction and the image will eventually disappear.
- When the correct picture has not been displayed on screen, the following error messages will display on screen.
NO SIGNAL - TV recived no signal from PC, you may check your PC is working correctly or not.
CABLE NO INSERT - The cable is not connected correctly. Ensure that the cable is connected correctly.
OUT OF RANGE - The picture resolution is out of limit. Ensure that the PC picture resolution is set correctly.

Specifications

Item	Model	LT-17E31BUG/LT-17E31SUG	LT-23E31BUG/LT-23E31SUG
Broadcasting systems		CCIR B/G, I, D/K, L	
Colour systems		PAL, SECAM • The EXT terminals also support the NTSC 3.58/4.43 MHz system.	
Channels and frequencies		<ul style="list-style-type: none"> E2-E12, E21-E69, S1-S41, X, Y, Z, Z+1, Z+2, ITALY A-H, ITALY H+1, ITALY H+2, F2-F10, F21-F69, R1-R12, R21-R69, IR A-J French cable TV channel of broadcast frequencies 116 - 172 MHz and 220 - 469 MHz 	
Sound-multiplex systems		A2 (B/G, D/K), NICAM (B/G, I, D/K, L) system	
Teletext systems		FLOF (Fastext), TOP, WST (World Standard System)	
Power requirements		TV : 12V DC, AC adapter : 100 - 240 V AC, 50/60 Hz	TV : 19V DC, AC adapter : 100 - 240 V AC, 50/60 Hz
Power consumption		60 W, Standby: 6 W	120W, Standby: 6 W
Screen size		Viewable area 43.5cm(measured diagonally)	Viewable area 58.2cm(measured diagonally)
Display resolution		1280 x 768 (W-XGA)	
Audio output		Rated Power output: 3 W + 3 W	Rated Power output: 5 W + 5 W
Speakers		5.4 cm round x 2	
EXT-1 terminal		Euroconnector (21-pin, SCART) • Video input, Audio L/R inputs and RGB inputs are available. • TV broadcast outputs (Video and Audio L/R) are available.	
EXT-2 terminal		Euroconnector (21-pin, SCART) • Video input, S-VIDEO (Y/C) input, Audio L/R inputs and RGB inputs are available. • Video and Audio L/R outputs are available.	
EXT-3 terminal		RCA connectors x 3, S-VIDEO connector x 1 • Video input, S-VIDEO(Y/C) and Audio L/R inputs are available.	
AUDIO OUT terminal		RCA connectors x 3 • Audio L/R outputs and a subwoofer output are available.	
PC INPUT terminal		Analog RGB : D-SUB (15 pins) x 1, PC AUDIO IN x 1 • PC signal and audio inputs are available.	
Headphone jack		Stereo mini-jack (3.5 mm in diameter)	
Dimensions (W H D)		465 mm x 325 mm x 78 mm (TV only) 465 mm x 363 mm x 190 mm	619 mm x 436 mm x 86 mm (TV only) 619 mm x 498 mm x 227 mm
Weight		6.1 kg (TV only) 7.3 kg	7.8 kg (TV only) 9.8 kg
Accessories		Remote control unit X 1 (RM-C1860) AA/R6 dry cell battery X 2 AC adapter x 1 (HP-OL060D03) Power cord x 1	

Design and specifications subject to change without notice.

Pictures displayed on the screen using this TV's ZOOM functions should not be shown for any commercial or demonstration purpose in public places (cafes, hotels, etc.) without the consent of the owners of copyright of the original picture sources, as this constitutes an infringement of copyright.





JVC

SCHEMATIC DIAGRAMS

LCD FLAT TELEVISION

LT-23E31 BUG/BJG
LT-23E31 SUG/SJG
LT-23E75 BJG
LT-23E75 SJG

CD-ROM No. SML200406



LT-23E31BUG, LT-23E31BJG, LT-23E75BJG LT-23E31SUG, LT-23E31SJG, LT-23E75SJG STANDARD CIRCUIT DIAGRAMS

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AV JACK PWB PATTERN	2-35
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USING P.W. BOARD

MAIN P.W. BOARD	DA-5097627802 (PWB-0640-1)
IR SENSOR P.W. BOARD	DA-5097627802 (PWB-0640-2)
AV JACK P.W. BOARD	DA-5098800736 (PWB-0641-1)
FRONT CONTROL P.W. BOARD	DA-5098800737 (PWB-0641-2)
TUNER P.W. BOARD	DA-5098800738 (PWB-0641-3)

SEMICONDUCTOR SHAPES

TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR

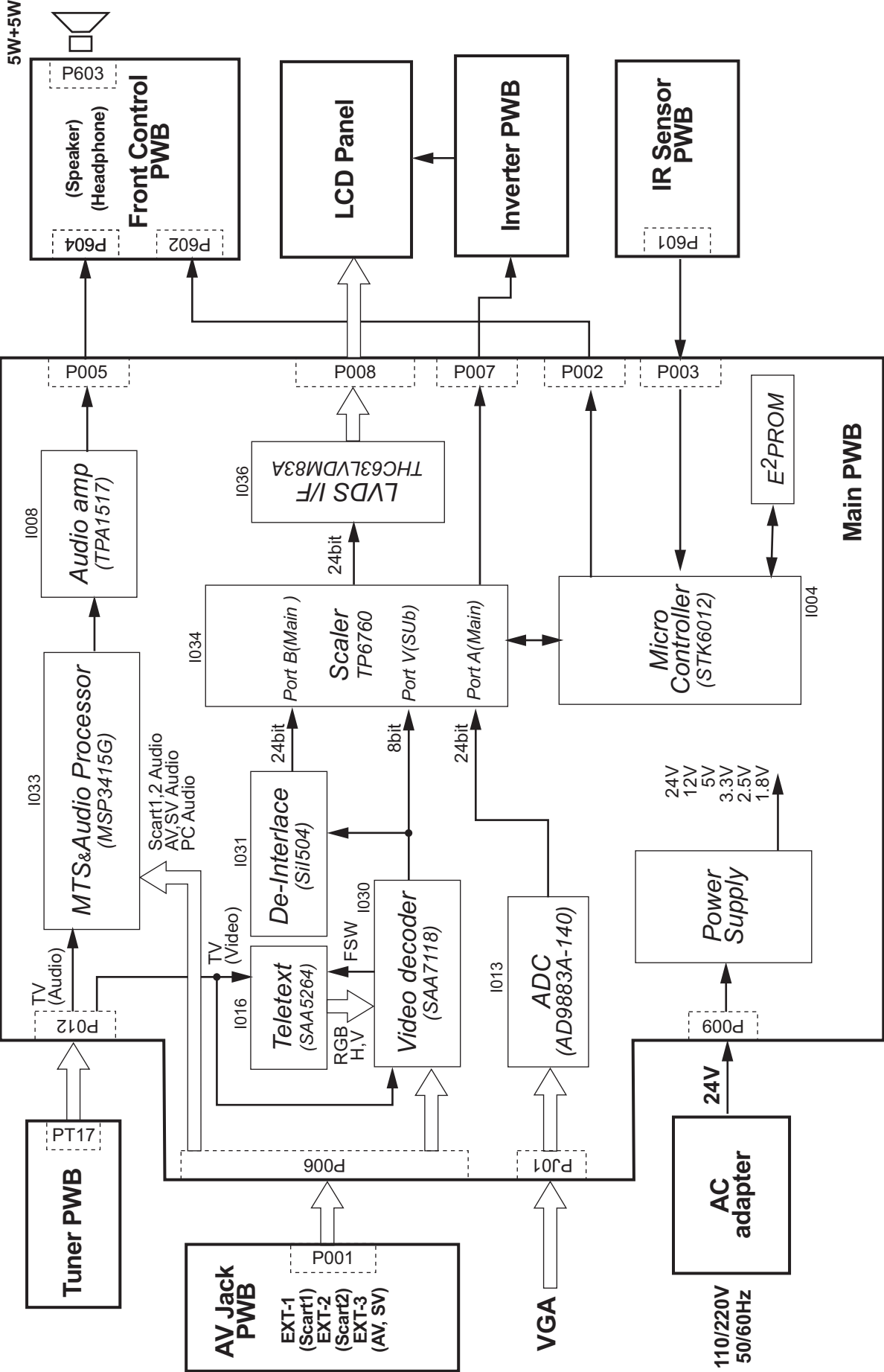
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BOTTOM VIEW	FRONT VIEW			TOP VIEW

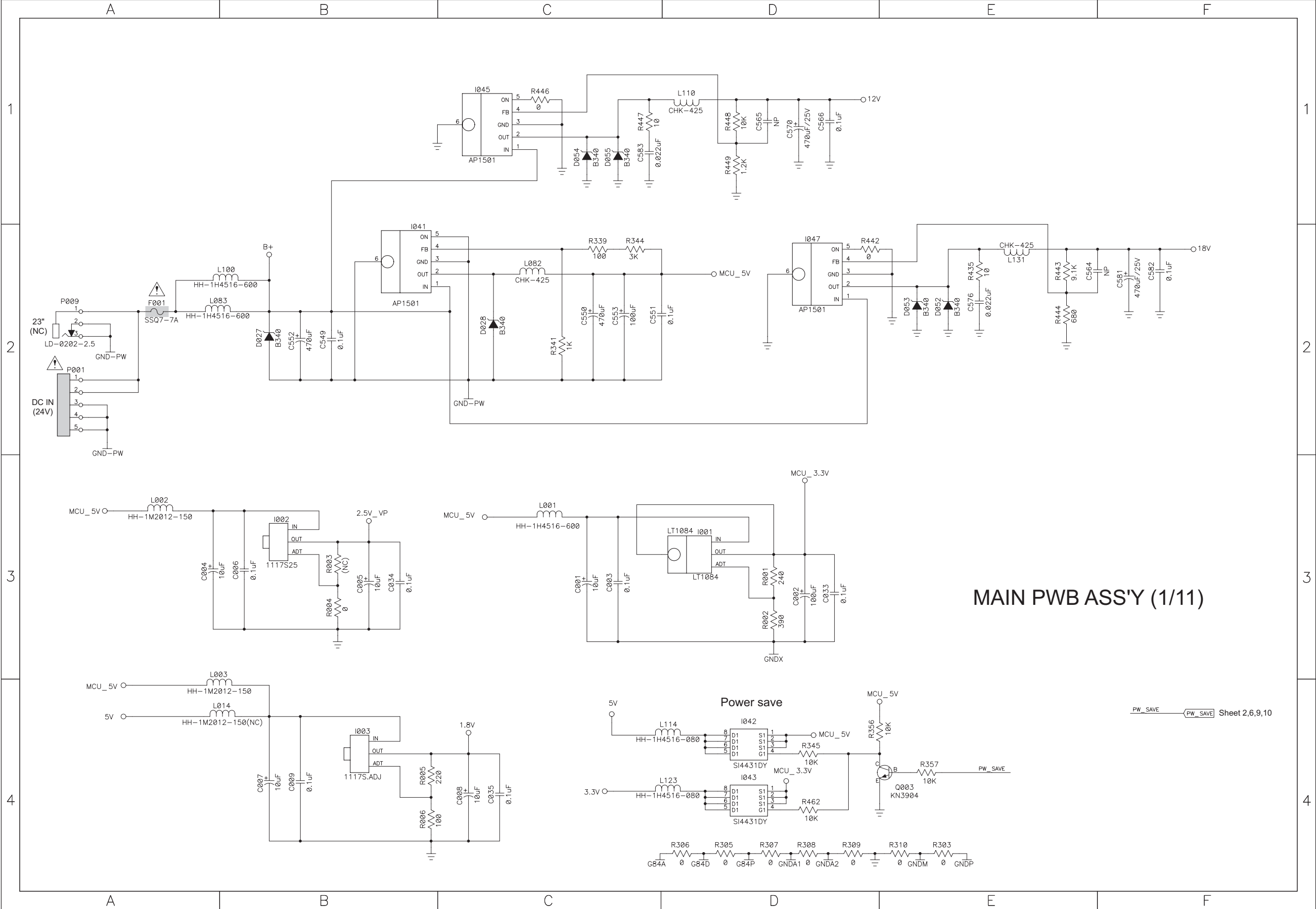
CHIP IC

TOP VIEW		

BLOCK DIAGRAM



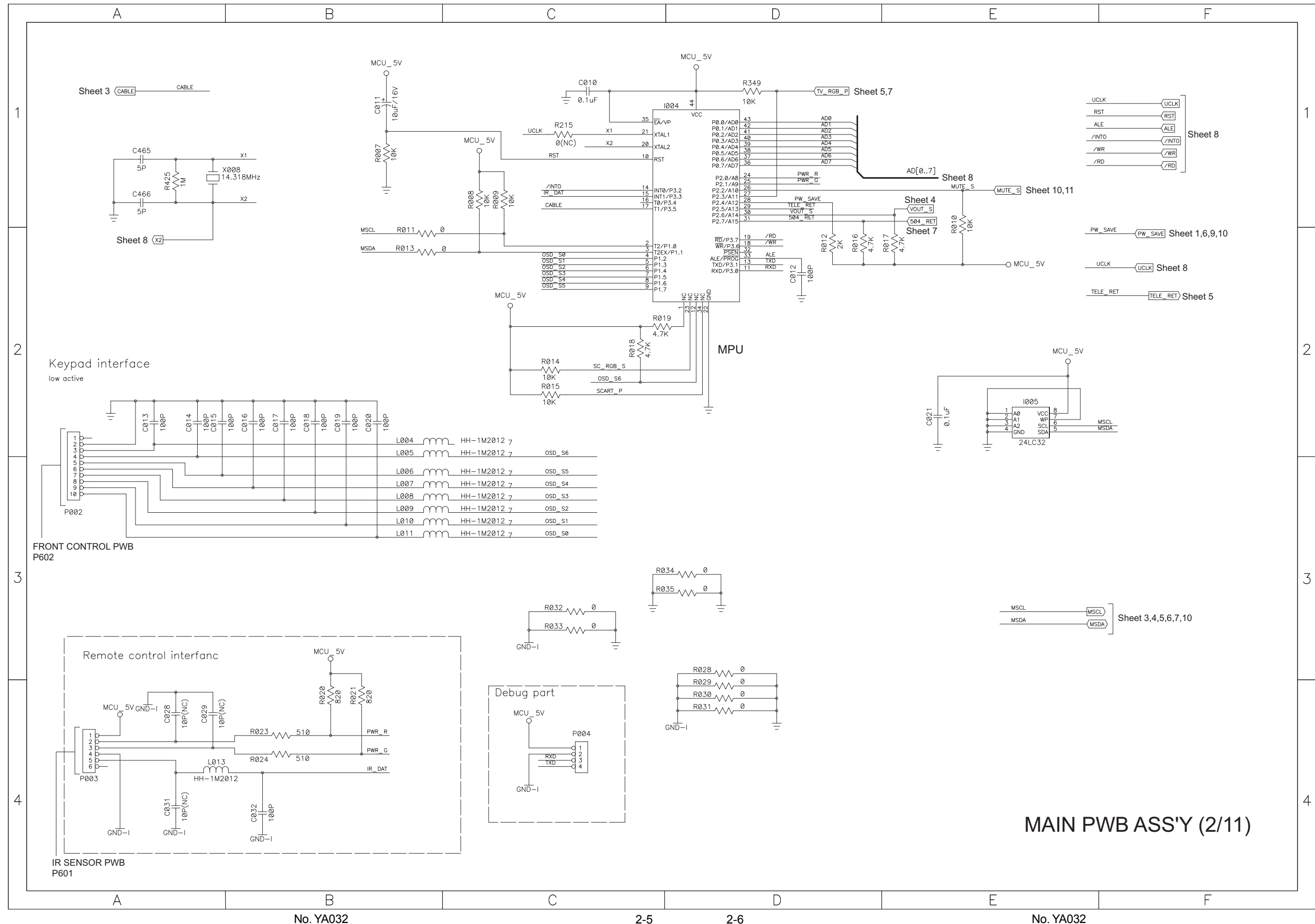
CIRCUIT DIAGRAMS
MAIN PWB CIRCUIT DIAGRAM (1/11)



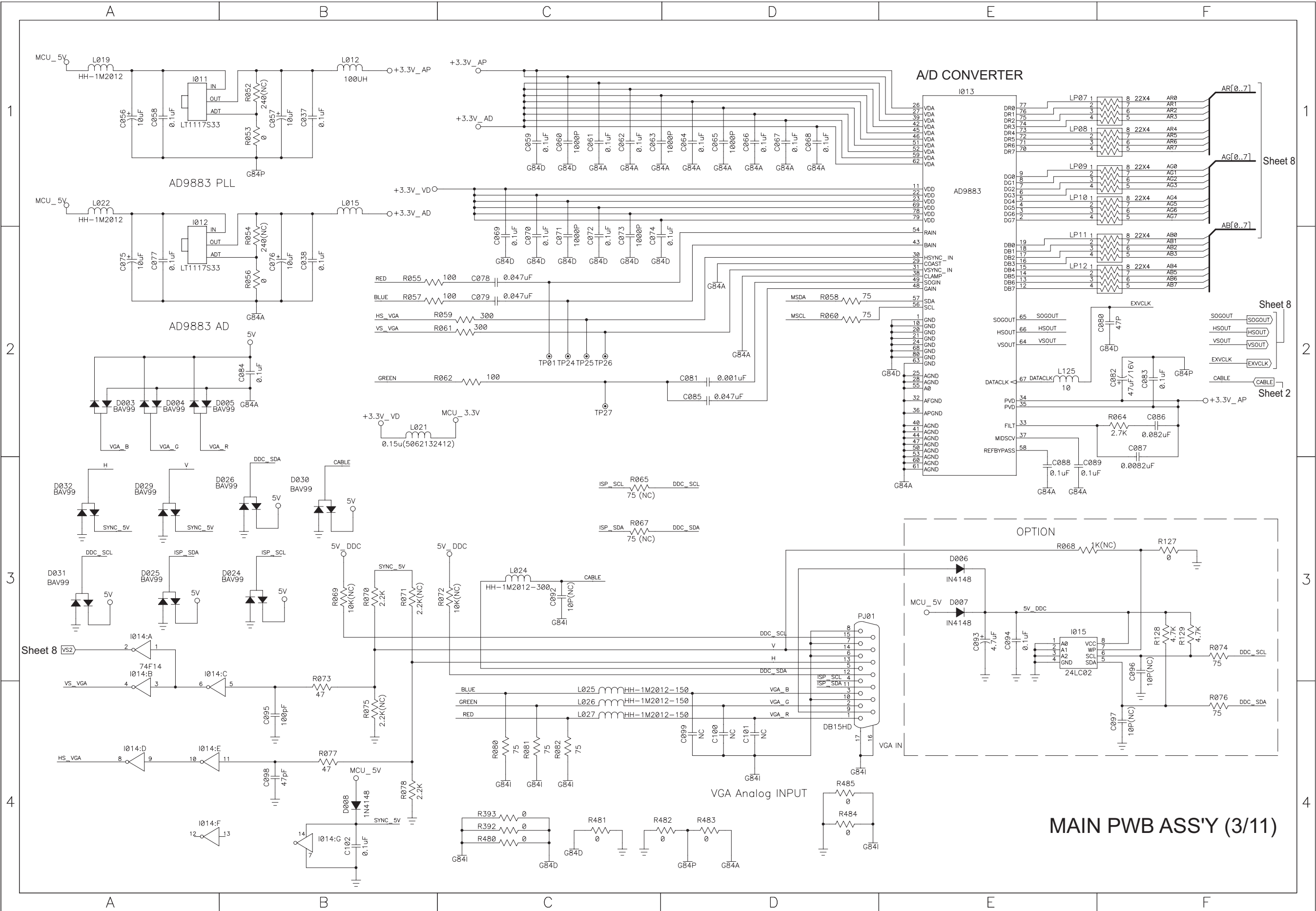
MAIN PWB ASS'Y (1/11)

PW_SAVE PW_SAVE Sheet 2,6,9,10

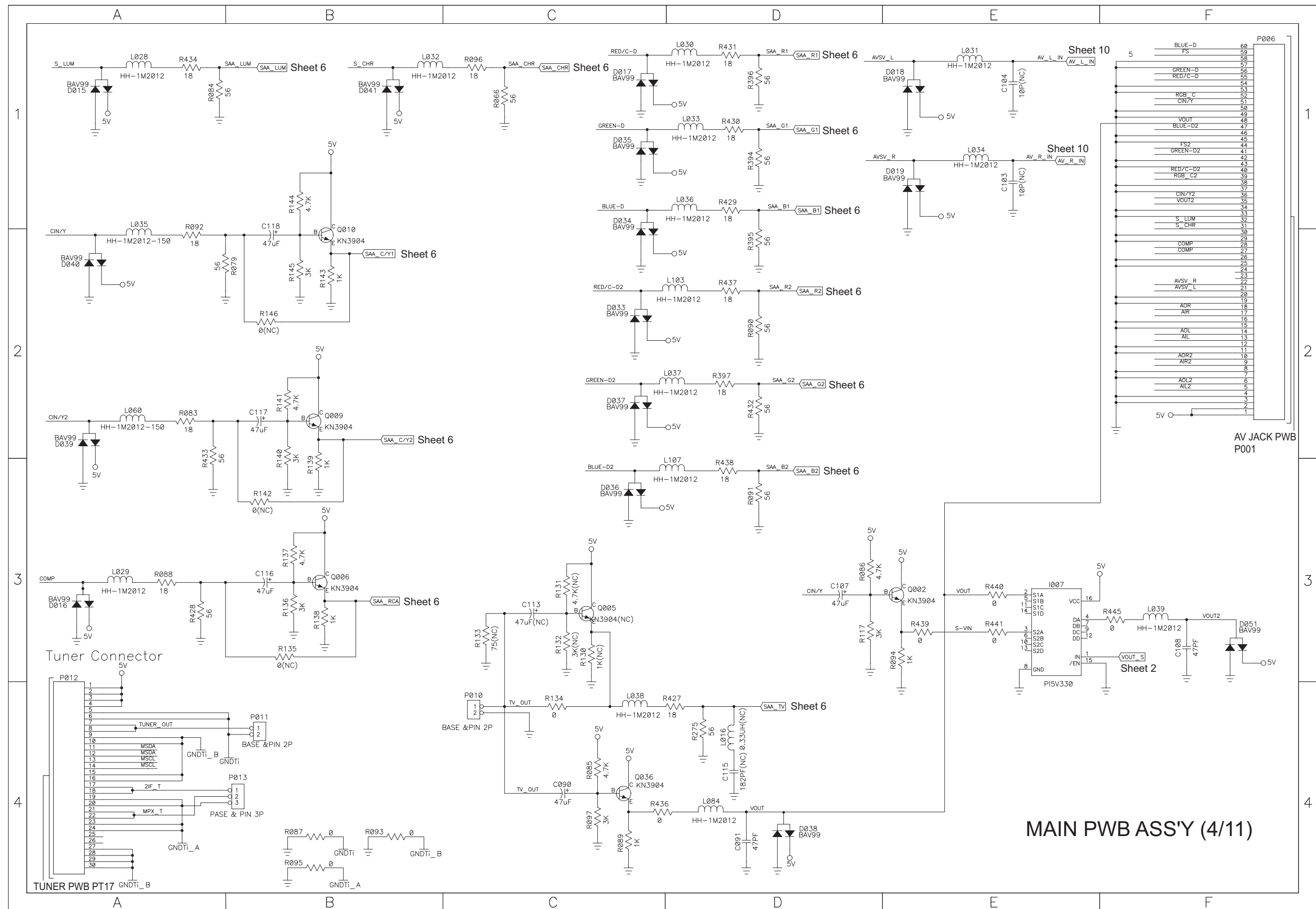
MAIN PWB CIRCUIT DIAGRAM (2/11)

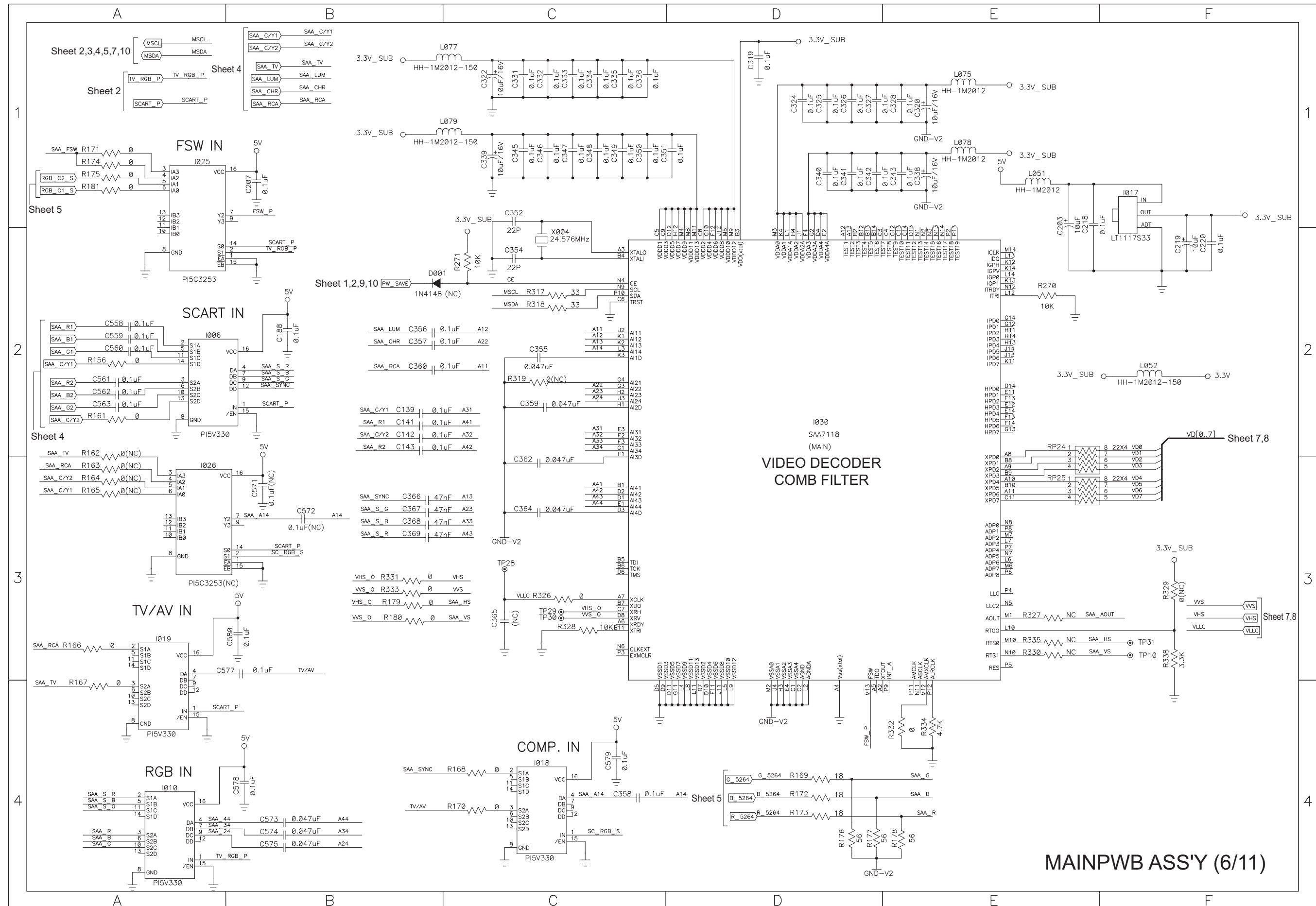


MAIN PWB CIRCUIT DIAGRAM (3/11)

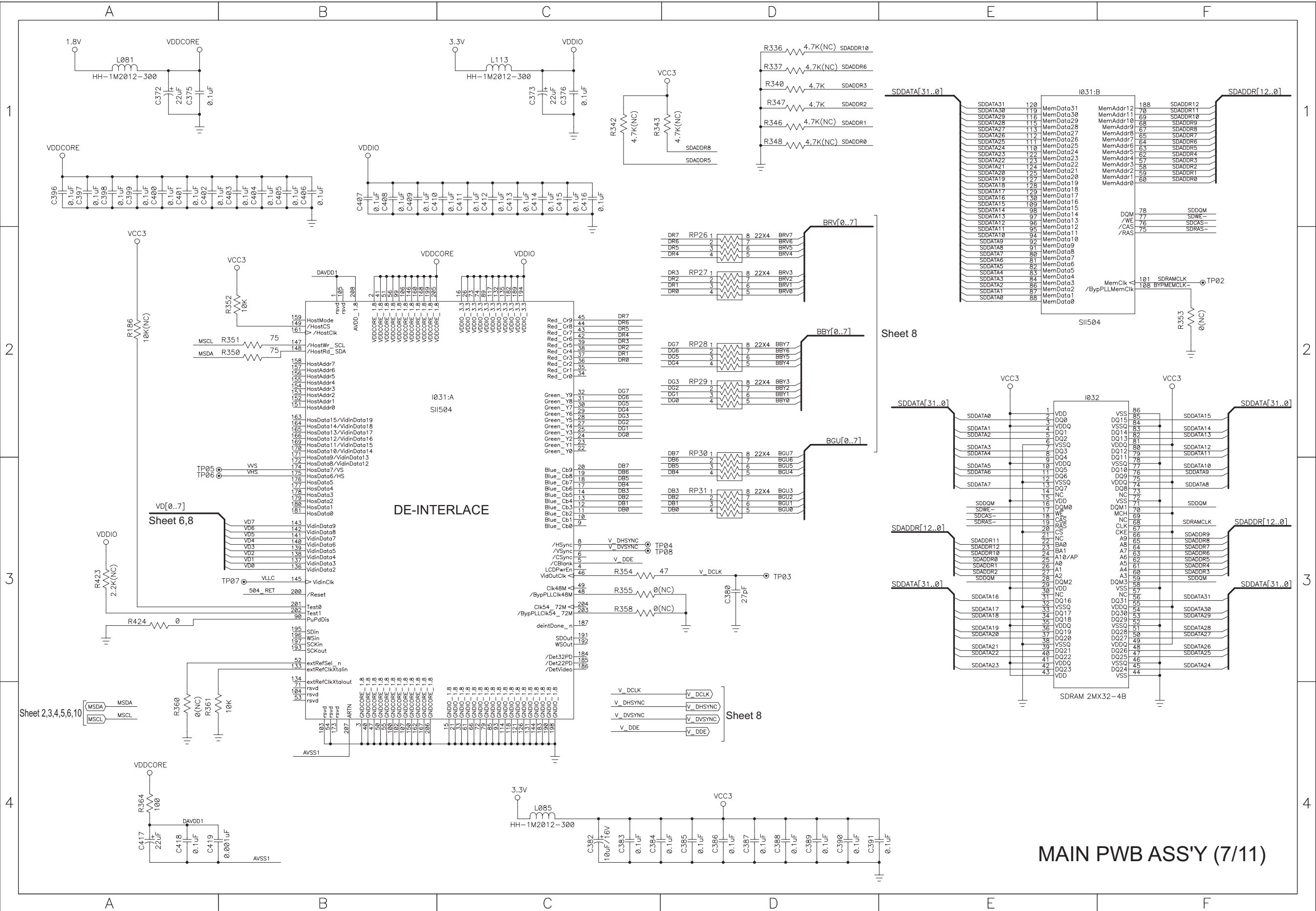


MAIN PWB CIRCUIT DIAGRAM (4/11)



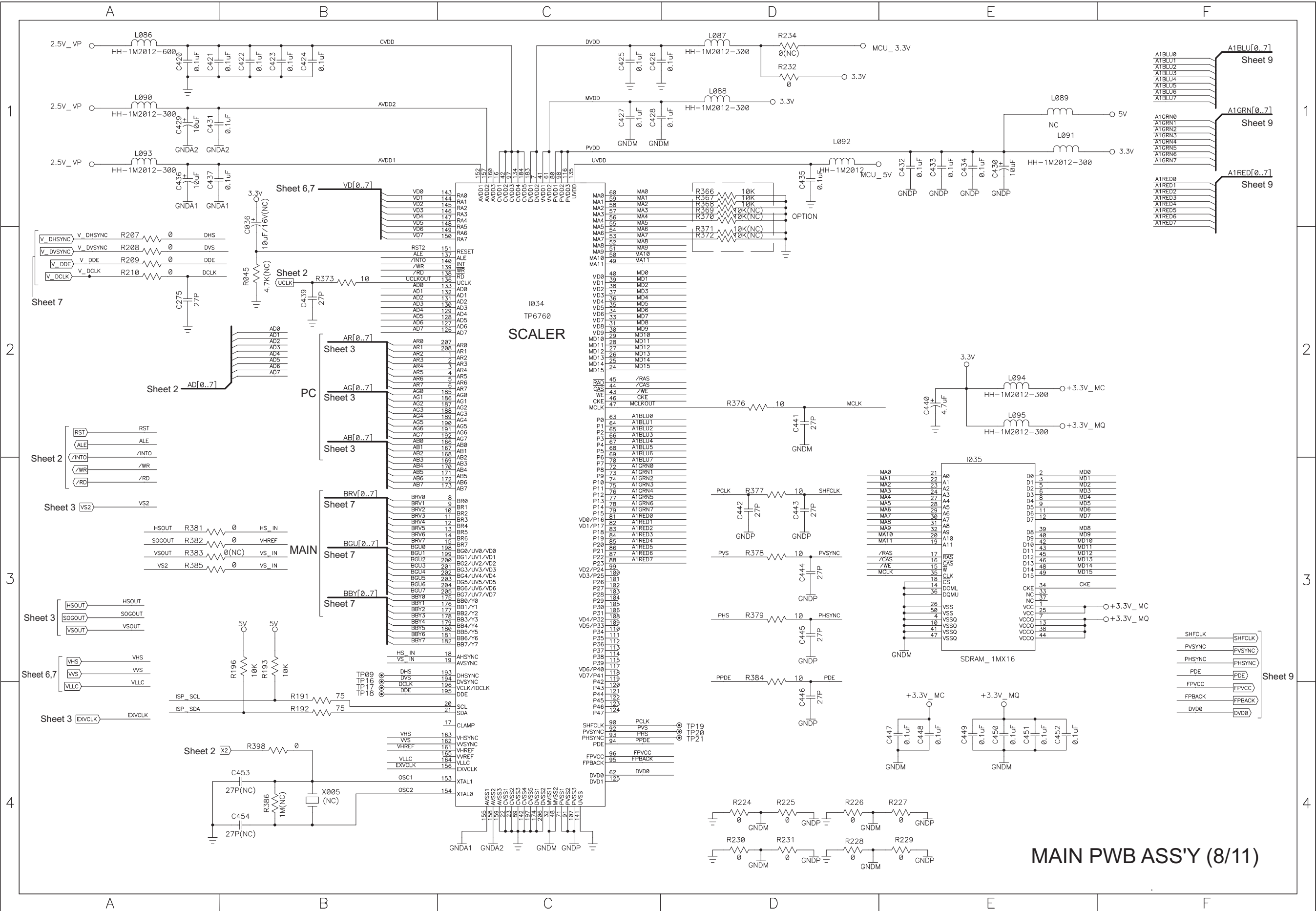


MAIN PWB CIRCUIT DIAGRAM (7/11)

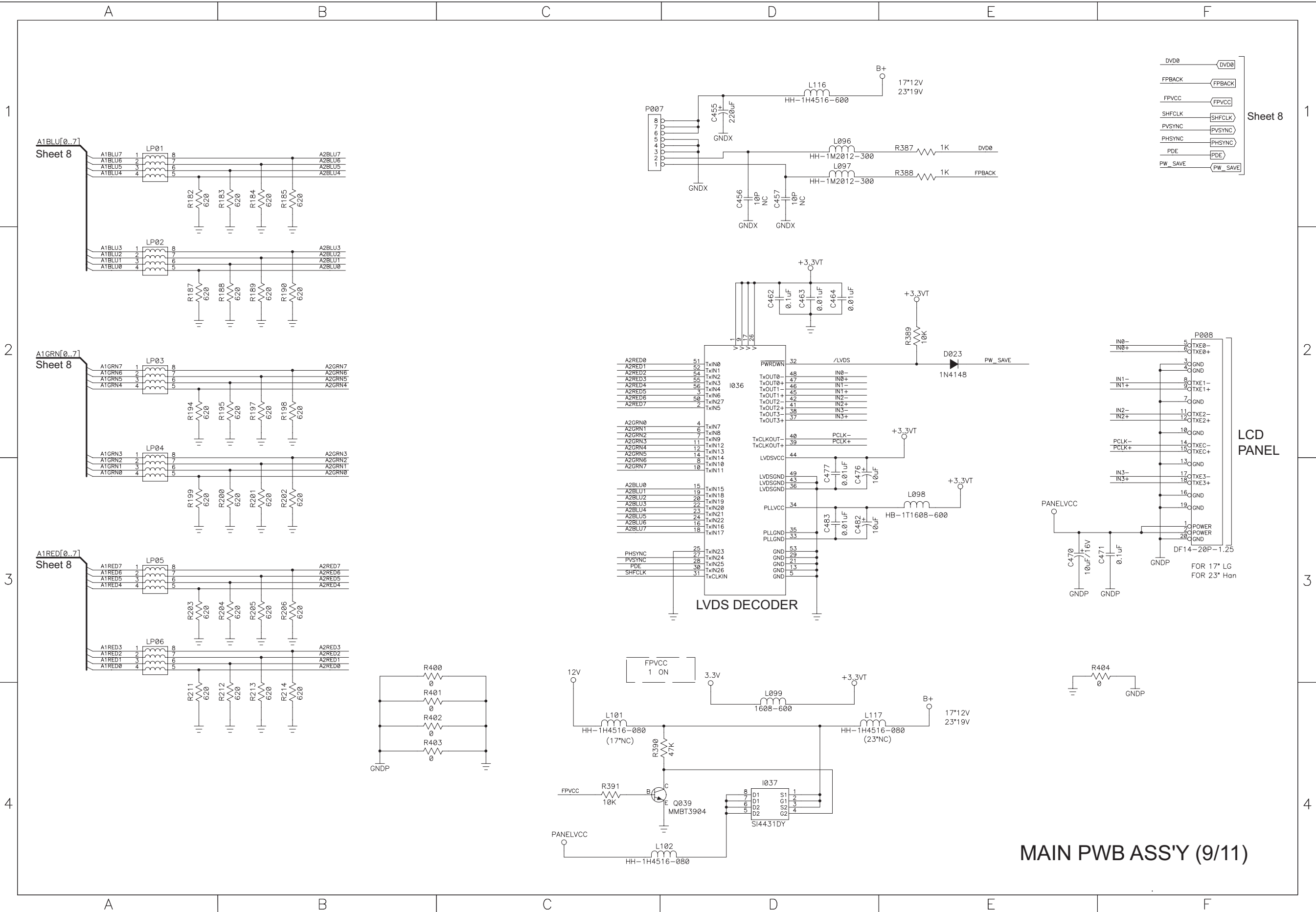


MAIN PWB ASS'Y (7/11)

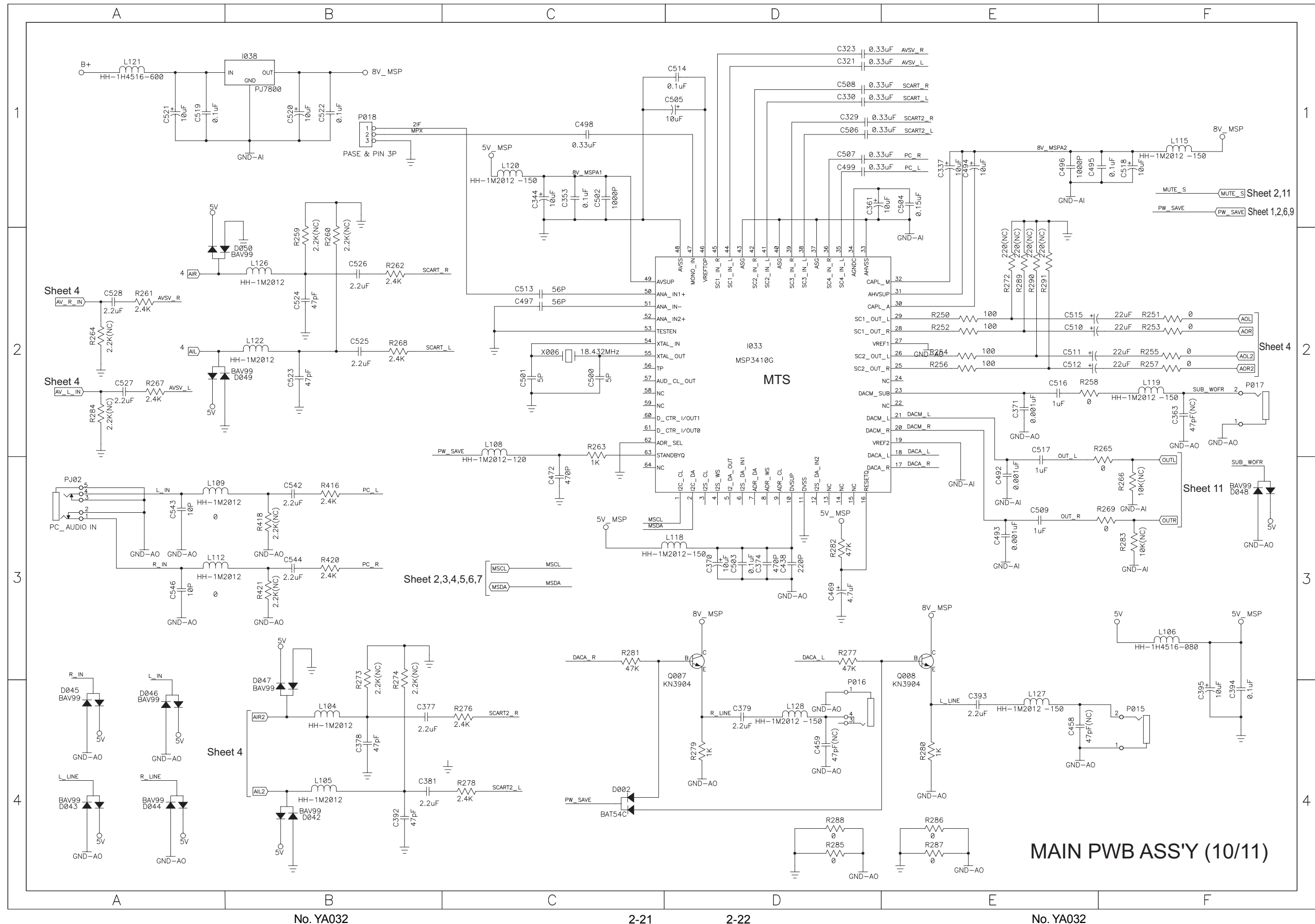
MAIN PWB CIRCUIT DIAGRAM (8/11)



MAIN PWB ASS'Y (8/11)



MAIN PWB CIRCUIT DIAGRAM (10/11)



The schematic diagram illustrates the MAIN PWB ASS'Y (11/11) and its connections to external components and other sheets.

Sheet 2,10 Connections:

- MUTE_S:** Connected to R426 (1K) and Q032 (KN3904).
- MCU_5V:** Connected to R412 (15K) and Q033 (KN3904).
- B+ (17V, 12V, 23V, 19V):** Connected to R414 (15K) and Q033 (KN3904).
- Q032 (KN3904):** Emitter connected to GND-AI.
- Q033 (KN3904):** Emitter connected to GND-AI.

Sheet 10 Connections:

- OUTR:** Connected to R407 (0) and R408 (0(NC)).
- OUTL:** Connected to R409 (0) and R410 (0(NC)).
- MCU_5V:** Connected to R412 (15K) and Q033 (KN3904).
- B+ (17V, 12V, 23V, 19V):** Connected to R414 (15K) and Q033 (KN3904).
- Q032 (KN3904):** Emitter connected to GND-AI.
- Q033 (KN3904):** Emitter connected to GND-AI.

AUDIO AMP Section:

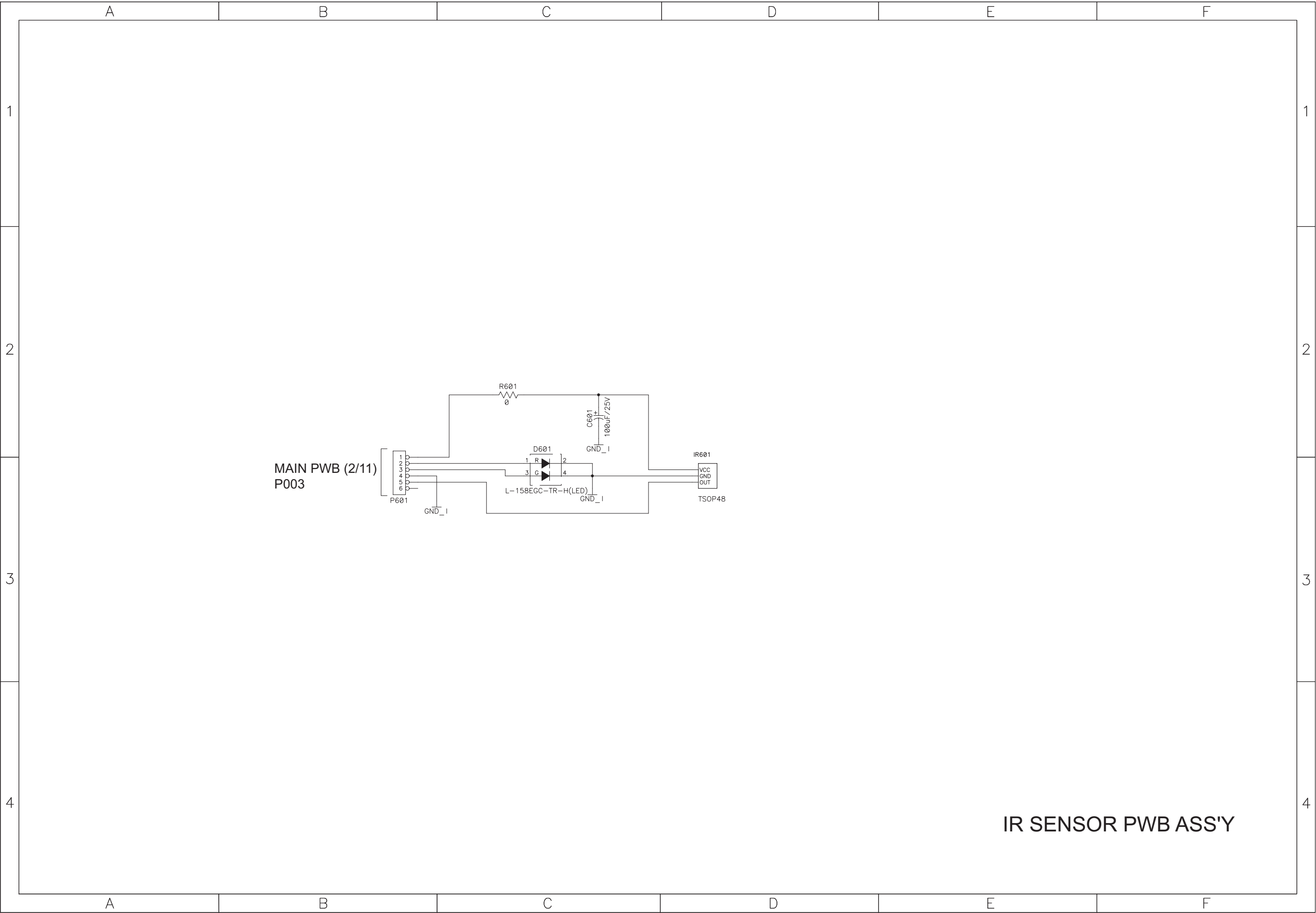
- PA1517:** IC with pins 16 (Vcc), 19 (L-IN), 17 (M/SB), 4 (SGND), 9 (PGND), 12 (PGND), 5 (SVRR), 10 (GND), 11 (GND), 13 (GND), 14 (GND), 15 (GND), 18 (GND).
- Resistors:** R407 (0), R408 (0(NC)), R409 (0), R410 (0(NC)), R412 (15K), R414 (15K), R415 (10K), R419 (2.2), R426 (1K).
- Capacitors:** C548 (10uF/25V), C569 (2.2uF), C541 (0.15uF), C547 (0.15uF).
- Inductors:** L111 (HH-1H4516-600(17*NC)), L132 (HH-1H4516-600(17*NC)), L124 (HH-1H4516-600(23*NC)).
- Diodes:** D057 (B340), D056 (B340).
- Transistors:** Q031 (KN3904), Q032 (KN3904), Q033 (KN3904).
- Other Components:** R405 (10K), R406 (4.7K), R422 (1K), R498 (10/3W(17*NC)), R499 (10/3W(17*NC)), R500 (0(23*NC)), C568 (470uF/50V), C545 (470U/25V), C567 (470U/25V), C460 (47pF(NC)), C461 (47pF(NC)).

FRONT CONTROL PWB P604 Section:

- P005:** IC with pins 1, 2, 3, 4.
- Resistors:** R417 (2.2), R419 (2.2), R426 (1K).
- Capacitors:** C541 (0.15uF), C547 (0.15uF), C545 (470U/25V), C567 (470U/25V), C460 (47pF(NC)), C461 (47pF(NC)).
- Inductors:** L129 (HH-1M2012-150), L130 (HH-1M2012-150).

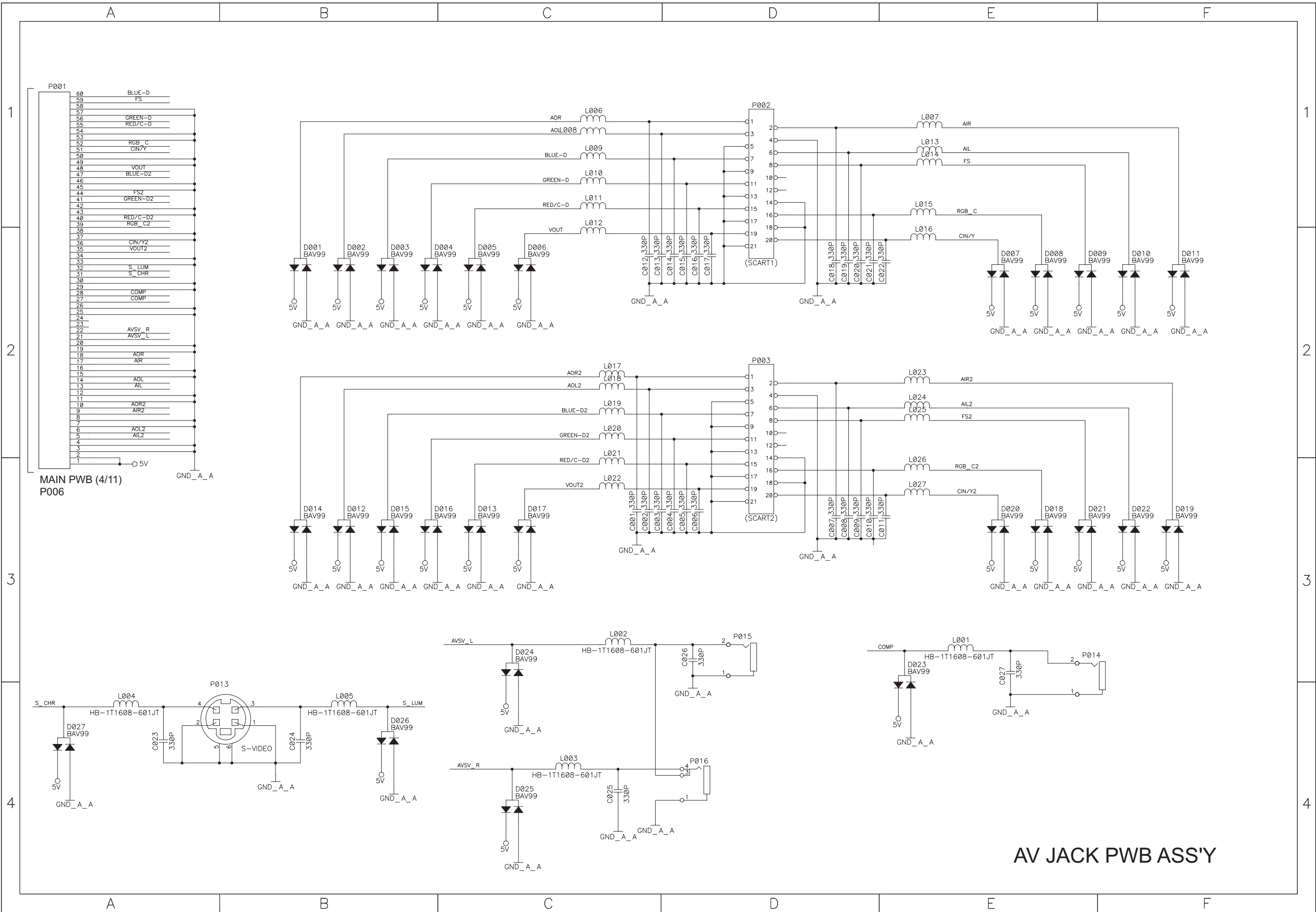
MAIN PWB ASS'Y (11/11) Section:

- Resistors:** R296 (0), R297 (0), R299 (0), R300 (0).

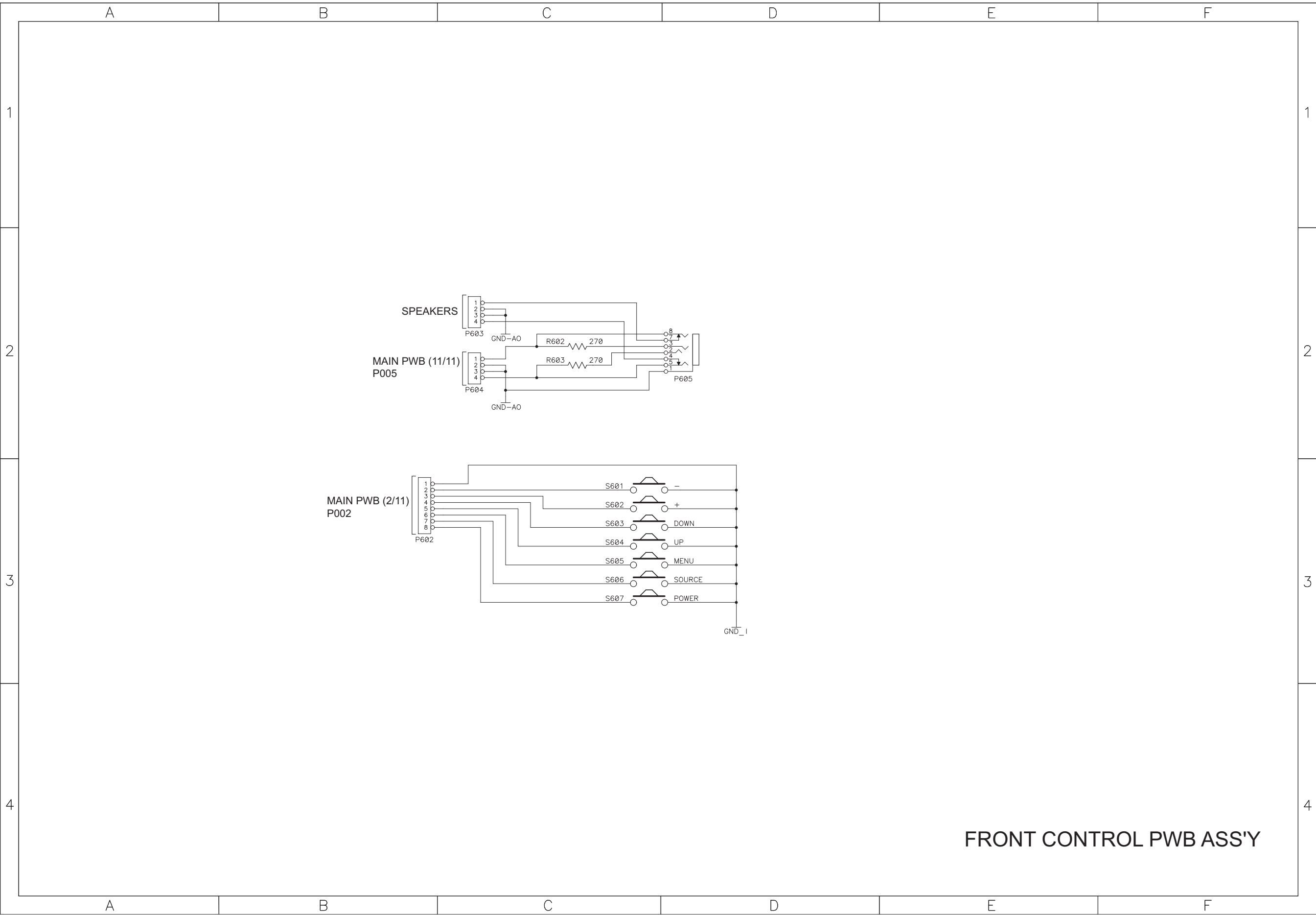


IR SENSOR PWB ASS'Y

AV JACK PWB CIRCUIT DIAGRAM



FRONT CONTROL PWB CIRCUIT DIAGRAM



FRONT CONTROL PWB ASS'Y

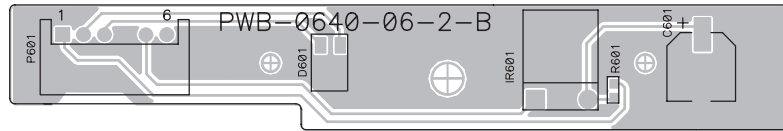
The schematic diagram illustrates the Tuner PWB Ass'y, which interfaces with the MAIN PWB (4/11) P012. Key components and connections include:

- Antenna Input:** ANTENNA connected to ANT, which leads to the UT01 tuner IC.
- Tuner IC (UT01):** A multi-pin IC with connections for NC, VS, SCL, SDA, AS, and MPX. It is connected to various passive components like resistors (RT08, RT09, RT10, RT11, RT12, RT13, RT06, RT07, RT03, RT05) and capacitors (CT02, CT01, CT03, CT04, CT05, CT07, CT08).
- Power Control:** A section labeled "Tuner Power Control" featuring inductors (LT04, LT05), capacitors (CT02, CT01, CT03), and a transistor (QT01, C1815) to regulate the 5V_TUNER supply.
- Signal Processing:** The signal path includes a 2IF stage (CT04, CT05, CT07) and a TUNER_OUT signal path (RT01, CT06, RT02) connected to the MAIN PWB.
- Connectors:** The diagram shows a connector (PT17) with 30 pins, labeled PH-D-RA1-30-G, which connects the Tuner PWB to the MAIN PWB.
- Other Components:** Various other components like LT01, LT02, LT03, and ZT01 are shown, along with their respective values and tolerances.

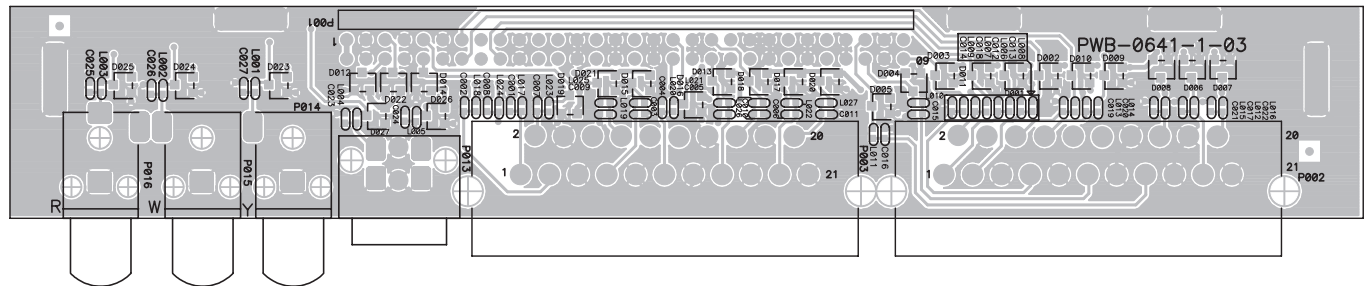
The diagram is labeled "TUNER PWB ASS'Y" and "MAIN PWB (4/11) P012".

No. YA032

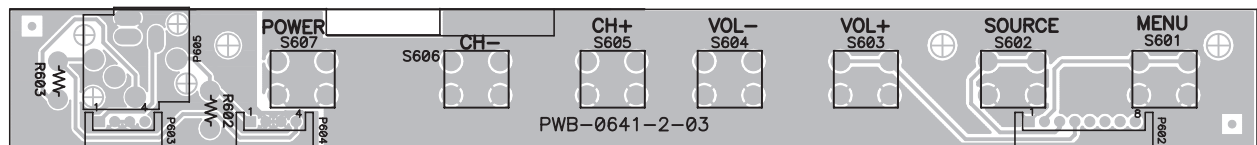
IR SENSOR PWB PATTERN



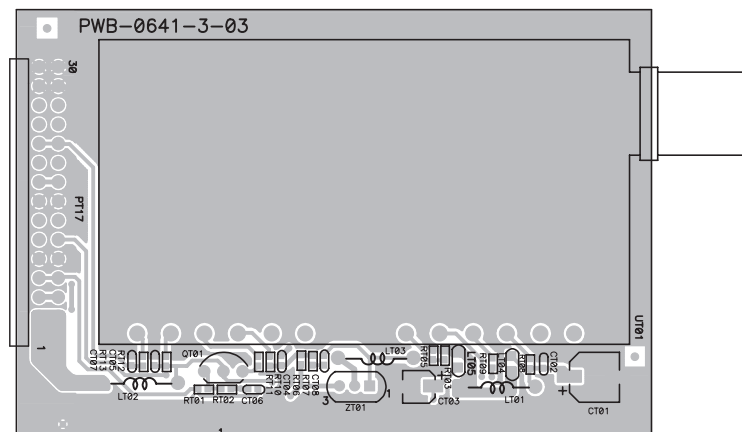
AV JACK PWB PATTERN



FRONT CONTROL PWB PATTERN



TUNER PWB PATTERN





Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY VIDEO DISPLAY CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

